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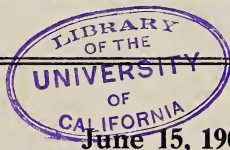
Gleanings in Bee Culture



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Vol. XXXVI



June 15, 1908

No. 12

ITALIAN Queens

and bees, and nothing but Italians. An improved superior strain is what QUIRIN-THE-QUEEN-BREEDER raises. Our stock is northern-bred and hardy. We just visited our outyards (all wintered on summer stands), and not a colony is dead to date (March 18). Some hives have lost scarcely a bee, so it appears. BROTHER BEE-KEEPER, how do you like such stock for hardiness? A party up in Maine got 50 nuclei of us several years ago. We just received a letter from him. He is after more of our bees, because last season he got 2200 pounds of honey which sold for 22 cts. per pound. Our stock is well known throughout the United States. Some of the largest yields reported can be traced to our stock. Over 20 years a breeder. Free circular and testimonials. Price of stock as below.

Prices of Queens before July.	1	6	12
Select queens	\$1 00	\$5 00	\$ 9 00
Tested queens	1 50	8 00	15 00
Select tested queens	2 00	10 00	18 00
Breeders	4 00		
Golden five-band breeders . .	6 00		
Two-comb nuclei, no queen . .	2 50	14 00	25 00
Three-comb nuclei, no queen .	3 50	20 00	35 00
Full colonies on eight frames .	6 00	30 00	

ADD the price of whatever grade of queen is wanted, with nuclei or colonies; nuclei ready about May 1st to 10th; can furnish bees on Danzenbaker or L. frames; pure mating and safe arrival guaranteed. We employ 400 to 500 swarms in queen-rearing, and expect to keep 500 to 1000 queens on hand ready to mail. Our Northern-bred bees are hardy, yet gentle; they will give you results. Address all orders to

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C. H. W. Weber, Cincinnati, O.

Dear Sir:—Bee-supplies to hand. Let me congratulate you on your work. This is my first business with you, and I like your promptness. I find freight less and time saved by ordering from you. Enclosed find check for \$2.58 to pay freight charges.

Yours truly, W. J. COPELAND, M. D.,
Fetzerton, Tenn.

Dear Sir:—The bee-supplies ordered from you arrived in due time, and good condition. Am well pleased.

Yours truly, CHAS. T. DOWNING,
Rt. 7, Lexington, Ky.

WANTED. Amber, light, and dark southern extracted honey. State quantity, style of package, and lowest price expected delivered in Cincinnati. Mail Samples.

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CINCINNATI,

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OHIO

Honey Markets.

The prices listed below are intended to represent, as nearly as possible, the average market prices at which honey and beeswax are selling at the time of the report in the city mentioned. Unless otherwise stated, this is the price at which sales are being made by commission merchants or by producers direct to the retail merchant. When sales are made by commission merchants, the usual commission (from five to ten per cent), cartage, and freight will be deducted, and in addition there is often a charge for storage by the commission merchant. When sales are made by the producer direct to the retailer, commission and storage, and other charges, are eliminated. Sales made to wholesale houses are usually about ten per cent less than those to retail merchants.

EASTERN GRADING-RULES FOR COMB HONEY.

FANCY.—All sections well filled, combs straight, firmly attached to all four sides, the combs unsoiled by travel-stain or otherwise; all the cells sealed except an occasional one, the outside surface of the wood well scraped of propolis.

A No. 1.—All sections well filled except the row of cells next to the wood; combs straight; one-eighth part of comb surface soiled, or the entire surface slightly soiled; the outside surface of the wood well scraped of propolis.

No. 1.—All sections well filled except the row of cells next to the wood; combs comparatively even; one-eighth part of comb surface soiled, or the entire surface slightly soiled.

No. 2.—Three-fourths of the total surface must be filled and sealed.

No. 3.—Must weigh at least half as much as a full-weight section.

In addition to this the honey is to be classified according to color, using the terms white, amber, and dark; that is, there will be "Fancy White," "No. 1 Dark," etc.

NEW COMB-HONEY GRADING-RULES ADOPTED BY THE COLORADO STATE BEE-KEEPERS' ASSOCIATION.

No. 1 WHITE.—Sections to be well filled and evenly capped except the outside row, next to the wood; honey white or slightly amber, comb and cappings white, and not projecting beyond the wood; wood to be well cleaned; cases of separated honey to average 21 pounds net per case of 24 sections, no section in this grade to weigh less than 13½ ounces.

Cases of half-separated honey to average not less than 22 pounds net per case of 24 sections.

Cases of unseparated honey to average not less than 23 pounds net per case of 24 sections.

No. 1 LIGHT AMBER.—Sections to be well filled and evenly capped, except the outside row, next to the wood; honey white or light amber; comb and cappings from white to off color, but not dark; comb not projecting beyond the wood; wood to be well cleaned.

Cases of separated honey to average 21 pounds net per case of 24 sections; no section in this grade to weigh less than 13½ ounces.

Cases of half-separated honey to average not less than 22 pounds net per case of 24 sections.

Cases of unseparated honey to average not less than 23 pounds net per case of 24 sections.

No. 2.—This includes all white honey, and amber honey not included in the above grades; sections to be fairly well filled and capped, no more than 25 uncapped cells, exclusive of outside row, permitted in this grade; wood to be well cleaned, no section in this grade to weigh less than 12 ounces.

Cases of separated honey to average not less than 19 pounds net.

Cases of half-separated honey to average not less than 20 lbs. net per case of 24 sections.

Cases of unseparated honey to average not less than 21 lbs. net per case of 24 sections.

INDIANAPOLIS.—With the exceptions of a few lots of old comb honey the local market is practically bare of honey. Dealers are awaiting arrival of new crop, but as yet no prices are established. Beeswax brings 28 cents cash or 30 in exchange for merchandise.
WALTER S. POWDER,
June 2. Indianapolis, Ind.

PHILADELPHIA.—Very little doing in the honey market for the last two weeks, with the prospect ahead of an unusually big crop in the East. Buyers are holding back for the new crop, old crop of comb being packed away for fall trade. Not enough sales being made of comb honey to make any quotation. Extracted honey, Southern, arriving freely. Bright amber sells in barrels at 6; white honey in 60-lb. cans, in a small way, 8.
W. A. SELSER,
May 25. 10 Vine St., Philadelphia, Pa.

NEW YORK.—Comb honey: The demand is next to nothing, and has been so for the past four months. A few crates of fancy No. 1 white are called for once in a while, while off grades and dark are entirely neglected. As there is practically no demand, quotations are simply nominal. We have more in stock than we can dispose of. The honey will have to be carried over until next fall. We can not encourage shipments of comb honey, as we do not think we shall be in position to render account of sales within reasonable time. Extracted honey: Demand better and market slightly improving. New crop is arriving quite freely from the South, where the yield seems to have been pretty large. We quote California white sage at 8½ to 9; light amber, 7½ to 8; amber, 6 to 6½; new crop Southern from 58 to 75 per gallon, according to quality. West India honey is arriving in fairly good-size lots and finds ready sale at from 60 to 62 per gallon, duty paid. Beeswax in good demand and firm at 30 to 31.

June 4. HILDRETH & SEGELKEN.
265-7 Greenwich St., 82-6 Murray St., New York.

SAN FRANCISCO, CAL.—The first offerings of the new crop of honey have arrived and have been picked up eagerly by the buyers as soon as they arrived. There has not been a sufficient amount of this to make any marked difference, and the market is still in a very bare condition. The dealers are still anxiously awaiting the arrival of substantial shipments. Prices remain as last stated. Water-white, comb, 16 and 17; white, 15; water-white, extracted, 8 and 8½; light amber, extracted, 7 and 7½; dark amber and candied, 5½ and 5¾.—*Pacific Rural Press.*

June 6.

DENVER.—Our market is now entirely cleaned up of comb honey, and the first consignments of the new crop should find a ready sale at good figures. We quote extracted white, 8 to 9; light amber and strained, 6¾ to 7½. We pay 25 cents per pound for clean yellow wax delivered here.

THE COLORADO HONEY-PRODUCERS' ASS'N,
May 26. F. RAUCHFUSS, Mgr., Denver, Colo.

LIVERPOOL.—The market for honey and beeswax is steady and quiet. We quote honey, Chilean, 4 to 6½ cents; Peruvian, 3½ to 5½; California, 7½ to 9; Jamaican, 4 to 5½; Haiti, 6½ to 6¾. Beeswax is very firm—African, 30 to 32; American, 30 to 33; West Indian, 29 to 32; Chilean, 30 to 36; Jamaican, 34 to 35.

May 13. TAYLOR & CO.,
7 Tithebarn St., Liverpool.

ST. LOUIS.—The honey market is very quiet. There is absolutely no demand for comb honey. Extracted honey is also neglected, consequently the prices have declined. Quote as follows: Fancy white comb honey, 15 to 16; No. 1, white and amber, 12 to 14; broken and defective, less. Extracted white, in cans, nominal at 8 to 8½; amber, 7 to 7½; in barrels, 5½ to 6; granulated extracted honey sells at less. Beeswax, 29 for prime; impure and inferior, less. R. HARTMAN PRODUCE CO.,
May 11. ST. LOUIS, MO.

ZANESVILLE.—So light is the demand for honey at the present time that it is almost useless to quote the market. Stocks are pretty well reduced, and there is a tendency to cut prices, especially on the part of one-horse dealers. While the remnant of last year's crop is moving very slowly, some revival is anticipated with the arrival of the new crop. For good quality beeswax I offer 30 cts. in exchange for bee-supplies. Wax wholesales at 40 to 45.
EDMUND W. PEIRCE,
May 18. Zanesville, O.

BUFFALO.—There has been no change in the price of honey since last quoted. The demand is fair for pure white comb and good No. 1 buckwheat comb. We think that about all the honey in the market will be cleaned up before the new crop is ready.
W. C. TOWNSEND,
May 11. Buffalo, N. Y.

CINCINNATI.—The market on extracted honey is light. We quote light amber in barrels at 6½; California white sage, 9½; practically no demand for comb honey. Beeswax sells at 33.
C. H. W. WEBER,
May 23. Cincinnati, O.

KANSAS CITY.—We have nothing to quote in the way of comb honey; but we quote extracted white at 7½. Beeswax, 25 to 27.
C. C. CLEMONS & CO.,
May 9. Kansas City, Mo.

CHICAGO.—The honey market is without volume—no special change in price of either comb or extracted. Much of the extracted from Utah will be unsold when this year's crop is harvested unless it is sold to bakers. Beeswax is steady at 30.

R. A. BURNETT & CO.,
May 9. Chicago, Ill.

Our Wants for Honey are Unlimited.

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a sample and correspond
with us, as we are always
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A NEW HIVE-TOOL

Hitherto we have said very little about our new hive-tool, but after submitting it to some of the foremost bee-keepers of America for their candid opinion—for or against—the universal verdict is that it is a good thing; though it looks like a very simple tool it is very surprising how useful it is to an apiarist. The bent end, for example, is just right for severing Hoffman frames. A slight twist of the wrist does the business without angering the bees, and one's hand is so placed the bees do not see it. For scraping wax and propolis nothing could be finer, and it is better than a chisel, screwdriver, or putty-knife for opening hives. Any bee-keeper will be glad of one in his pocket ready for all occasions. It is made of the finest hardened steel nickel plated.

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THE RESULT OF TOEPPERWEIN'S WORD CONTEST.

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11. H. C. Kautz, North Water Gap, Pa., 415.
12. H. A. Pinegar, Wellington, Utah, 411.

Over 1000 persons entered the above contest. Owing to the immense amount of work connected with such a contest, and the technical knowledge required, Messrs. Toepperwein engaged an expert to examine all the papers, with the foregoing result. The problem was to create as many words as possible out of the word Toepperwein.

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Some of our readers may not have noticed the liberal offer made to them by the management of the Seaboard Air-Line Railway, who will, on request, furnish their *Seaboard Magazine* free of charge. It is very far from being a mere advertisement; on the contrary, it will bear very favorable comparison with many journals for which a fair charge is made. It gives very just and accurate information about the land contiguous to the Seaboard Railway. To many of the readers of *GLEANINGS* this will prove to be very interesting reading because it discusses truck-growing and fruit-growing as best suited to much of these lands. The climate of the country through which this railway passes is extremely pleasant and agreeable compared with the rigorous weather of the Northern States. In many cases two crops may be grown in a season—not only so, but the prices realized are actually greater than are obtained for northern produce. Being early it takes the "cream" of the northern markets, and the gigantic cotton-mills and other factories furnish splendid markets right at home. Moreover, the cotton-planters and their helpers are very great purchasers of northern produce, so that, as a matter of fact, the South is the greatest outlet for produce this country has. For this reason many northern farmers have moved to the South to their own great advantage. Many are puzzled to know just what section to go to, and the *Seaboard Magazine* was started with the express object of furnishing the desired information.

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MINNESOTA STATE FAIR, AUGUST 31, SEPTEMBER 1, 2, 3, 4, 5.

Division H.—Honey, Bees, and Apian Supplies.

Superintendent.—M. V. Facey, Preston, Minn.

Rules governing exhibits: Competition open to the world. No entries received after Saturday, August 29 (see rule 14). Premiums and purses not called for within ninety days will be considered forfeited.

CLASS 62.—HONEY.

Lot.	1st.	2d.	3d.	4th
1 Most attractive and finest display of comb honey	14	11	8	5
2 Case white-clover honey, 12 to 24 pounds	10	7	5	3
3 Case basswood or linden comb honey, 12 to 24 pounds	10	7	5	3
4 Case other white comb honey, 12 to 24 lbs.	10	7	5	3
5 Case amber comb honey, 12 to 24 pounds	10	7	5	3
6 Display of comb honey in extracting frames	10	7	5	3
7 Most attractive and finest display of extracted honey	12	9	7	5
8 Case extracted white-clover honey, 12 lbs. or more in glass, labeled	10	7	5	3
9 Case extracted basswood or linden honey, 12 pounds or more in glass, labeled	10	7	5	3
10 Case other white extracted honey, 12 or more pounds in glass, labeled	10	7	5	3
11 Case extracted amber honey, 12 pounds or more, in glass, labeled	10	7	5	3
12 Display extracted honey, granulated or candied	10	8	7	5
13 Beeswax, best quality, 10 pounds or more	7	5	4	3
14 Honey vinegar, not less than one gallon, in glass	5	4	3	2
15 Nucleus of golden yellow Italian bees and queen in observation hive	10	8	6	4
16 Nucleus of dark or leather-colored Italian bees and queen in observation hive	10	8	6	4
Grand Sweepstakes.				
17 Largest, best, and most attractive exhibition in this department, all things considered	15	12	9	6

FARMERS' COLLECTION.

Exhibits to compete for the following premiums must be made by bee-keepers living fifty miles or more from St. Paul, and not eligible to exhibit in the general classes.

18 12 to 24 pounds white comb honey	10	7	5	3
19 12 to 24 pounds amber comb honey	10	7	5	3
20 12 to 24 pounds white extracted honey	10	7	5	3
21 12 to 24 pounds amber extracted honey	10	7	5	3
22 Most original and attractive design in comb honey	5	3	2	
23 Best and most attractive display of wax, not less than 12 pounds	5	3	2	

Lot.	1st.	2d.	3d.
24 Candies made with honey instead of sugar; quantity, quality, and display considered	6	4	2
25 Best display of cooking with honey used in place of sugar for sweetening	5	3	2

WORKING BEE EXHIBIT.

26 Best hive for comb honey	5	3	2
27 Best hive for extracted honey	5	3	2
28 Best display of apian tools and fixtures	7	5	2
29 The most attractive exhibit of handling bees made by any bee-keepers' association in suitable tent or wire-netting inclosure; said exhibit to be made daily and as many times daily as is deemed advisable by the superintendent of this department. (Associations competing must bear all the expenses of said exhibit).	40	20	

W. W. CARY & SON, LYONSVILLE, MASS.

We wish to recommend this old established firm to the notice of our readers in the New England States. It is one of the oldest if not the oldest concern in the bee-business, being at one time intimately associated with Mr. Langstroth. Messrs. Cary carry a full line of bee-supplies, and are in a position to ship very promptly—in fact, almost by return mail.

LISTEN!

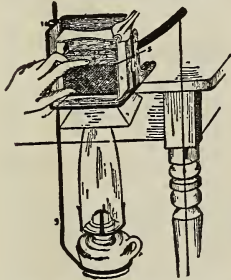
DO YOU HEAR THOSE BEES WORKING?

Soon they will want room or will swarm.

Have you gotten your hives and supplies? If not, send your order at once. If you have The A. I. Root Co.'s catalog you can order from it. We sell their goods at their factory prices. We can fill your orders promptly now. Write for further information and our 40-page catalog.

JOHN NEBEL & SON SUPPLY CO., HIGH HILL, MONTG. CO., MISSOURI.

RAUCHFUSS PATENT
COMBINED SECTION-PRESS AND
FOUNDATION-FASTENER.



Used by the largest comb-honey
producers.

Successful Co-operation

means to the Bee-keeper:—The buying of the best Bee-supplies obtainable at the closest prices, and marketing of his products to the best advantage. Our association is co-operative, and organized for this purpose. We carry a large stock of high-grade goods such as:

G.B. Lewis Co.'s Root's Dadant's
Hives and Sections Smokers and Extractors Comb Foundation

Send to-day for our free 48-page Illustrated Catalog.

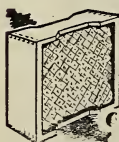
The Colorado Honey-Producers' Ass'n
1440-1444 Market Street Denver, Colorado

BEE KEEPING

will be a profitable
industry this season.

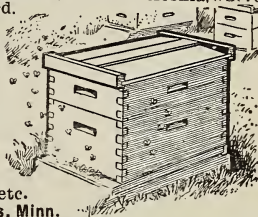
Honey is high—short crop last year. The shortage of the honey crop for 1907 in the United States warrants bee-keepers to increase their colonies. About a half crop was produced, and in California, where the cheap honey comes from, only a quarter of the average crop was produced.

Get Ready Now! for More Honey



Let us send you our catalog. We are manufacturers and sell only our own make of bee-supplies. Minneapolis is the largest lumber-distributing point; the Mississippi river furnishes us power, and our organization and labor conditions are the best for economical production. Send us an estimate of your requirements and let us give you prices. We have a large stock of standard bee-supplies on hand.

Dovetailed Hives, Sections, Section-holders, Separators, Brood-frames, Comb Foundation, Smokers, Extractors, Shipping-cases, etc.
MINNESOTA BEE SUPPLY COMPANY, 23 Nicollet Island, Minneapolis, Minn.



This Coupon worth 25 Cents!

If not now a subscriber and you want one of the most helpful aids to successful bee-culture—a paper that tells how to make your bees pay—you should subscribe to the

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A 32-page illustrated 50-cent monthly. It tells all about the best way to manage bees to produce the most honey; with market quotations, etc. A dozen different departments—one for women bee-keeper. . . . Best writers.

It will increase your Honey-money!

If you will send us your name and address with 25 cents (stamps or coin) together with this coupon, we will send you a trial trip of our journal for 12 months. Order now, and let us begin with this month's fine number. Address

American Bee Journal, 118 W. Jackson, Chicago, Illinois

THE SEASON FOR

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Queens

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Veils and
Smokers

THE A. I. ROOT COMPANY

SYRACUSE

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NEW YORK

TO THE BEE-KEEPERS of CANADA.

WE are pleased to say that we are able to offer, in Canada, goods manufactured by The A. I. Root Co. While we do not offer every thing listed in their catalog, we have selected such articles as we believe will best meet the wants of the Canadian beekeepers.

The heavy duty and freight charges we have to pay make it impossible for us to sell in Canada at Root's prices. We have, however, made prices as low as possible, and in no case do we charge nearly as much extra as the amount of freight and duty we ourselves have to pay on the goods.

We would ask you, when comparing our prices with those of other dealers, to take into consideration the QUALITY. If you do so we feel satisfied that you will place your order with us. The splendid quality of the material sent out by The A. I. Root Co. has given "Root's Goods" a world-wide reputation. Remember, "The best is cheapest."

E. GRAINGER & COMPANY
Deer Park, Toronto, Ontario, Canada

Canadian agents for The A. I. Root Co., Medina, O., U.S.A.

APICULTORES

De Espana, Portugal y Colonies.

Pidan catalogos de las colmenas, extractores, prenas para cera, ahumadores, zinc perforado, escape de abejas, velos, cuchillos, maquinas para hacer base de panales, y todos otros articulos utiles en apicultura manufacturado por la celeberrima casa de

A. I. Root Company,

la fabrica la mas importante del mundo. Precios muy modicos a los subagentes por mercancias puestas en nuestros talleres.

EMILE BONDONNEAU,

Agente Générale

POR TODA EUROPA Y COLONIAS,
142 Faubourg SAINT DENIS, PARIS. 10me.

\$UCCCE\$\$

This is the way that most people would spell success—begin with a dollar and end with two; and if that is the kind of success you are looking for, you ought to be reading the

BEE-KEEPERS' REVIEW.

It is not only thoroughly practical, but is conducted from a dollar-and-cent standpoint. It tells its readers how to keep bees in such a manner as to *make money*; its articles are written by men who have made money in the business, and can tell others how to do it.

While on a visit recently a bee-keeper told me that for a long time he had been reading only one bee-journal, but, finally, he had accepted one of my special offers, subscribing for the *Review* and securing a volume of back numbers, and, as he looked over and read the back numbers, he was fairly

STRUCK DUMB

at the amount of information* that they contained—he did not suppose there could be another bee-journal, aside from the one that he had been reading, that could contain so much information.

SPECIAL OFFER.

Now, if you are not acquainted with the *Review*, you might be equally surprised at its value, and here is an easy way to learn more about it: Send me ten cents and I'll send you three late but different issues, and the ten cents may apply on any subscription that you may send in later. A special offer will also be sent, showing how you can get the *Review* for this year and next at a very low price.

W. Z. HUTCHINSON, Flint, Mich.

And Still They Come

The following letter from one of our customers demonstrates in his own words the satisfaction our customers receive. Remember this is only one of the many thousands we receive.

Griggs Bros., Toledo, O.—I received the hives and supplies to-day, which is the quickest I ever got goods after ordering. They must have come over in the Knaben shoe's airship. They certainly are in fine shape—utterly impossible for any thing to have got lost.

Your shipping-clerk had them packed to perfection.

Respectfully, HUGH RICHARDSON,
Wood Co., O.

We should be pleased to list you as one of our customers if you are not one already. Bear in mind we handle ROOT'S GOODS exclusively, not the cheap shoddy stuff which others are trying to palm off under the pretense that it's "as good as ROOT'S." Try ROOT'S and you will be convinced. TOLEDO is the place to buy; we save our customers annually thousands of dollars in FREIGHT.

A complete line of Incubators and Poultry Supplies listed in our free catalog. Send for one.

Honey and Beeswax wanted in exchange for supplies.

Special

200 cases of 60-lb. cans, good as new, at 50 cents per can. Special prices in quantities.

The Griggs Bros. & Nichols Co.
523 Monroe St. .. Toledo, Ohio

WESTERN Bee-keepers

.. will ..

SAVE TIME AND FREIGHT

by ordering ROOT'S GOODS
from Des Moines, Iowa.

Complete NEW STOCK now on hand. Our stock includes a full line of Danzenbaker hives and all other up-to-date goods.

Remember we sell at Root's factory prices, and offer liberal discounts now.

Estimates cheerfully given. Send us a list of your wants, and get our net prices by letter.

Our 1908 catalog is now ready to mail. Write for it to-day. Address

JOS. NYSEWANDER
565-7. W. 7th St., Des Moines, Ia.

PITTSBURGH for ROOT'S Headquarters BEE-SUPPLIES at factory prices.

Also Poultry and Dairy Supplies, Seeds, and Pet Stock.
Get our catalog and prices.

Stapler's Seed Store 412-414 Pittsburgh, Pa.
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F. R. DANIELS, 117 FLORENCE ST.

SACKETT WRAPPERS (Transparent) FOR COMB HONEY

NOW BEING USED BY LARGE PRODUCERS

Makes section look more attractive, and increases selling price. Any one can apply it and get 2 to 4 cents more per pound, and it costs you only a fraction of a cent per section.

Price \$3.25 per thousand sheets,
printed with name and address.

Samples free.

Special prices on quantities.

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FOR SALE.—It will pay to get our special proposition.
A. G. WOODMAN & CO., Grand Rapids, Mich.

"If goods are wanted quick, send to Pouder."
Established 1889.

INDIANAPOLIS=THE PIVOT CITY.

By the Bee Crank.

Indianapolis is a mighty good town to live in, and a good town for business.

Because—All passenger and freight depots are within five blocks of the business center.

Because—It is only thirty-five miles from the center of population of the United States.

Because—It has eighteen steam railway lines.

Because—It has twenty-five interurban passenger and freight lines.

Because—It is only seventy miles from the vast coal-fields.

Because—It has factories of world-wide reputation.

Because—It has a population of two hundred and forty thousand, and is growing.

Because—It has miles of wide well-paved streets, many well-distributed parks, and thousands of homes surrounded with beautiful lawns and shade-trees.



Because—It has one hundred and seventy-five churches, sixty-five common schools, two high schools, one national technical institute, and one college.

Because—It is the home of the very best bee-supply house in the country, and the only one that makes a distinct specialty of immediate shipments, perfect

packing and crating and services, that have been pronounced by scores of bee-men as being absolutely ideal.

I handle Root's goods at their prices—Danzenbaker and other standard hives; finest sections; fresh new comb foundation; smokers and all other first-class equipment for bee-men. My catalog is free.

Beeswax wanted at highest market prices.

Wanted. — Fancy white-clover comb honey for exhibition purposes.

Hoosier-Italian queens ready by return mail. Untested, 75 cents. Select untested, \$1.00.

Walter S. Pouder,

513-515 Massachusetts Avenue, Indianapolis, Ind.



GLEANINGS IN BEE CULTURE

Published by The A. I. Root Co., Medina, Ohio

H. H. ROOT, Assistant Editor
A. I. ROOT, Editor Home Department

E. R. ROOT, Editor

A. L. BOYDEN, Advertising Manager
J. T. CALVERT, Business Manager

VOL. XXXVI

JUNE 15, 1908

NO. 12

STRAY STRAWS

DR. C. C. MILLER

HAVE READ Leslie Burr's article, p. 699. Am going to stay at Marengo. [Most bee-keepers had better stay where they are unless they desire to go into the business of honey production on a very large scale, running a series of yards.—Ed.]

I THOUGHT I did a pretty good thing when I said "cellar the bees" instead of "put the bees in the cellar." Now comes a Canuck, R. B. Ross, Jr., with the word "uncellar." Why not? Ever so much shorter than to say "take out of the cellar."

SORRY you've gone lame in one eye, Mr. Editor, but glad you are going to spend more time with the bees. Better for your readers, and you will live longer. [The eye is apparently holding its own. We feared at one time that it might get worse, and possibly involve the other eye.—Ed.]

W. Z. HUTCHINSON, p. 639, speaks of storing supers of honey in the bee-cellar. Does he really mean *cellar*? That might do in Colorado, just possibly in Michigan; but to store honey in any thing called a cellar in this locality, unless the cellar is heated, comes pretty near spelling ruin. [Here too.—Ed.]

A CARNIO-ITALIAN queen was received from Medina, July 30, 1906—too late for her progeny to do much storing that year. Last year the colony built up well, showed no great inclination to swarm, and stored more than the average. This year it has built up well again. Looks like good stock, judged by this one specimen.

SOMETIMES the objection is made to comb honey that the wax is indigestible. Probably in no case does that do any harm; and in some cases the indigestibility of the wax is its greatest recommendation. In cases of chronic constipation comb honey has been reported beneficial when extracted honey would have no effect.

WONDER what made the difference between Albert I. Mills' experience, p. 701, and that of Mr. Whitney and mine. Could it be that letting most of the bees go down through the escape, as Mr. Mills did, should make the difference? It seems strange that he found a loss with only two supers, and that with thousands of supers I have as yet observed no loss.

A. I. ROOT, let me tell you a little story. Once there was a saloon-ridden town where four boys lived whose fathers were drunkards, and spent all their money at the saloons. You will see a picture of them in GLEANINGS on the right side of p.

698. On the left side you will see the same boys a few months later after saloons were voted out, and the fathers supported their boys instead of saloons.

I DON'T KNOW whether bees that cap the combs watery are always hustlers; but I think I never had any very poor storers that capped watery. But as I work for comb honey I don't believe such bees bring up the quantity stored as much as they bring down the price per pound. It's all right for such bees to find an asylum with Mr. Whitney, page 702, for I suspect he sets them to work on extracting-combs. For extracted honey they are all right.

BERTHA M. TIMONEY, you say your bees are not as neighborly as those bees in Germany, page 703, but perhaps they would be if placed the same as the bees are placed in Germany. Germans do not scatter them all over the ground as we do, but put them very close together. My hives stand in pairs, a space of only an inch or so between each two hives. In a hot time sometimes that space is filled up with bees, and the bees of the two colonies hang out as one cluster. If one hive should be crowded with honey, and the other have lots of room, it would be nothing strange if they should go into partnership and store where there was the most room.

BEE-KEEPERS, I think, generally understand that it is economy to use foundation as thin as possible. In spite of that, thin super has the preference over extra thin more than two to one. Please get bee-keepers to tell why. I gave up extra thin because the bees maltreated it so whenever not actually storing in it. [Yes, we should be glad to have producers report what weight of foundation they use for sections, and why, particularly the *why*. In order that we may hear from as many as possible we should like to get postal-card reports from several hundred. This will be interesting and valuable, especially to those whose minds are not quite made up which to use.—Ed.]

WORKING with bees at night seems to do well with some; but somehow it doesn't seem to fit this locality. Bees crawling all over, like as not to sting where it will hurt—excuse me. [Night-working is not nearly so bad as it may seem on first trial, providing one uses a good lantern, bicycle pants-guards to keep the bottom of the trousers tight, and sleeves protected in a similar manner. Yes, the bees will crawl; but if one goes at the matter properly he will experience but little difficulty. But we would advise night-working only in the case of business men or clerks who do not get home till after daylight hours; and in all other cases where robbing has been very bad —Ed.]

PROF. COOK has earnestly protested against calling the larva of the wax-moth a worm, and Burton N. Gates repeats the protest in the *American Bee-keeper*, p. 112. Whatever the entomologists may say, the dictionary supports the use of the word "worm;" and so long as we are asked to use in place of the one word five or six words—"the larva of the bee-moth"—we are likely to follow the dictionary rather than the entomologists. Still, I have much respect for my good friends' feelings, and also for exactness of language. I have asked Prof. Cook to give us something short and yet correct to take the place of "worm." As yet he has not done so. In default of something better I venture to suggest "wax-larva." Even then it will be hard to give up the word "wormy." Instead of saying "That comb is infested with the larvæ of the wax-moth" it is ever so much easier to say "That comb is wormy."

REFERRING to footnote, p. 621, I hardly think the position of the dead queen on the excluder is any proof of a combat between queens. A queen or drone killed above an excluder will always be found on the excluder because the bees can not drag them through. You've got to "show me" before I'll believe that one queen can get a grip on another queen so as to sting her through an excluder. [We will admit that dead drones, and occasionally a dead queen, will be found on the perforated zinc, the same being brought there by the bees in the effort to get them out of the hive. But there have been reports where mortal combats have taken place between two queens through the perforations of perforated zinc. The queen that happens to get the right hold on her antagonist will deliver the sting through the perforations. If some of those who reported these occurrences will hold up their hands we shall be glad to have them do so.—Ed.]

THE QUESTION as to the proportion of thin to extra-thin surplus foundation having been raised, I asked Dadant & Sons what was the proportion in their sales, and received the following very full reply:

Our sales of foundation last year averaged as follows:
 Medium brood—42 per cent. Thin brood—11 per cent.
 Thin surplus—34 per cent. Extra thin—13 per cent.

From this it will be seen that the thin surplus was 2.6 times as much as the extra thin. The medium brood was 3.8 times as much as the thin brood; the total brood, 13 per cent more than the total surplus. Perhaps you might tell us how these figures compare with figures at Medina. [We do not keep an extended record of every grade sold during the year; but we have asked the foreman of our department to give a report of it for the last month, and the figures are as follows: For more ready comparison we put the Dadant figures alongside of ours.

Root Co.	Dadant.
Medium—34	Medium—42
Light—20	Light—11
Thin—30	Thin—34
Extra thin—16	Extra thin—13

The difference in percentage here shown may be due to the fact that we advise extra thin for sections, not because the bees take to it better, for they do not, but because we believe it makes a finer grade of comb honey.—Ed.]

OSWALD MUCK gives a full report of the eight golden queens received at the Vienna station

from America, *Bienen Vater*, 323. He concludes by saying that the American goldens are great beauties, but can by no means compete with the natives. I don't question this verdict, but I do question one objection made against them. He says they are great wanderers, some of the golden workers being found in every hive in the apiary. How is it known that the natives were not scattered in the same way? If a few native colonies were in an apiary of goldens, would not scattered native workers be found in all the golden colonies? [Quite right you are. A few goldens among the blacks would be very conspicuous. The fact is, we suspect, from a lot of observation on the point, that all races of bees wander to a greater or less extent, especially in the case of colonies having entrances similarly situated, and with similar surroundings. The young bees in their first flight are not always unerring in returning to the same spot. When they miss it they go back to one very much like it, pointing in the same direction, or having the same external surroundings.—Ed.]

EDITORIAL

THE early bird catches the worm; or, in other words, the first new comb honey on the market secures the best price. The trade is waiting for it, and the bee-keeper who lands his crop first will make a quick sale.

THERE have been abundant rains in our locality, and it is indeed surprising how fast weeds shoot up, thus obstructing the entrances of the hives right where we had used a sickle and cut every thing down nice and clean three or four days before. In the early part of June, when the ground is soaked with water, it does not take long to hinder greatly the flight of the bees at the entrance.

THE last year's honey crop of California having all been disposed of, the returns show that the actual production was about 275 carloads. This year's crop is beginning to appear, but no one seems to be able to make even an approximate estimate of what the amount in carloads will be, as there is a total failure in places and a fair crop in others.

W. K. M.

MR. J. E. CRANE wisely calls attention to the fact that honey is all the better for a little milk with it when served by itself. Cream is even better, to our taste, and such a combination simply slides down. There is no better food under the sun, and both ought to be within the reach of most people. There are very good reasons for supposing that such food will keep consumptive germs at bay, and promote long life and the happiness of health.

W. K. M.

WE take great pleasure in printing elsewhere in this issue the premium list for bees and honey at the Minnesota State Fair. It is a model, and ought to be emulated by every State in the Union.

The superintendent is Mr. M. V. Facey, one of the best-informed bee-keepers in this country. It ought to be noted that the Minnesota authorities are broad and liberal minded, for they have thrown open the competition to the entire world. They surely deserve a splendid response to their generous invitation. The bee-keepers' exhibits ought to be one of the features of the fair.

W. K. M.

COMB HONEY LEFT OVER FROM LAST SEASON, AND WHY.

THERE would not have been a pound of comb honey left on the market if producers had made an effort to sell it before the holidays. A lot of it is held over and is now begging a customer. It will be sold as the season opens up again, but at a very low price. Comb honey more than a year old is usually a poor seller.

PARCELS POST.

SENATOR CARTER has succeeded in having the bill creating a parcels-post service set down as a special order for December 14th, next. This insures having the whole question come to a vote, when we all shall see who is for and who against. It was evident there would be no opportunity for a discussion this session, so Senator Carter asked for a special order with the before-mentioned result.

W. K. M.

WHAT ARE PRICES GOING TO BE FOR THE CURRENT YEAR?

THIS is a hard question to answer. Early indications showed prospects of a good crop of honey in Texas and California; but the realities are reported to have fallen short of the expectation. The clover district promises a big crop. The conditions are certainly ideal for a fine flow, and if there should be a heavy crop of white clover and basswood in the rain-belt it may make prices in the East ease up somewhat, especially if general hard times hang on.

KEEPING THE CAUCASIANS UNDER CONTROL.

WE are having quite a time in keeping our Caucasians under control at our south yard. They raise drones as fast as we can trap them and destroy them, even when they have nothing but worker comb. We fear the consequences of letting them get the start of us, if it should develop later that they are not desirable. What do we think of them at this time? We don't know. They are good honey-gatherers apparently, but are great oropolizers and not as gentle as they might be. The first importations seemed to be much quieter than the later ones.

MUST BE PURE BEESWAX.

A committee of the Brooklyn Retail Grocers' Association, headed by President Lohmann, held a conference last week with the New York State Board of Pharmacy with reference to their beeswax prosecutions of grocers. It was brought out that the Board was desirous of stopping the sale of "ironing wax" as pure beeswax, whenever the ironing wax is merely a compound. The gro-

cers' representatives made it clear that the trade at large is innocent of any intent to deceive the public in the matter, and it was pointed out that the grocers' associations were ready to co-operate for the purpose of securing honest methods of distributing groceries of all kinds.—*American Grocer*.

WILL THERE BE ANY SAGE HONEY FROM SOUTHERN CALIFORNIA?

THE reports we have received from some of our leading bee-keepers, especially in the vicinity of Los Angeles, have been discouraging. The following clipping sent us by a subscriber seems to tell another story:

HONEY CROP TO BE A BUMPER.

The honey crop of this season in this county promises to be a bumper. Estimates that have been made up show that the total will be not less than 50 cars, and the figures may run considerably above that figure.

In fact, the bee-men report that it has been one of the best seasons for honey-gathering that the valley has had for several years past. It has been neither too hot nor too cold for the bees to do their best work, and there has been an abundance of bloom for the honey-gatherers to work upon all the latter part of the winter and spring.

The same story comes from all of Southern California. Riverside Co. is also expected to produce 50 cars, and San Diego Co. will do as well. Other Southern California counties have good crops, so that the total for the seven southern counties will foot up 300 cars or more, it is believed. The average crop is considerably below that figure.

All together it has been a very prosperous year for the Southern California bee-men.

In view of the reports we have received from bee-keepers direct, we are inclined to discredit this somewhat. We are inserting it, however; and if those who are in position to know any thing about the real state of affairs in Southern California will please write us at once we shall appreciate it.

DIFFERENCE IN TEMPERAMENT BETWEEN COLONIES.

WHAT a difference there is in bees in regard to temperament! Some colonies must be handled with the utmost care, while others, without regard to race even, will stand almost any kind of rough treatment. The other day we struck one colony that came near making us beat an inglorious retreat; but we stood our ground, using plenty of smoke. The sun had gone down, and the atmosphere was dropping slightly. While bees generally are more vindictive under such circumstances, this particular colony was exasperatingly so.

The very next hive we opened, the bees were as quiet as kittens. We kicked and bumped it, but it was still quiet. We ripped out the combs and replaced them with a bang, and still the bees were quiet. The funny thing about it was that the queens of both colonies were reared from the same blood. They were both well-marked Italians. We surmised from the tendency to run to four bands that the queen of the cross colony had been mated to one of those golden drones that have been the cause of some of our peppery bees,* while the other queen was undoubtedly mated to an ordinary leather-colored drone of imported extraction. The cross queen we shall sell as a hybrid if we sell her at all. We are wondering if it wouldn't be a sin even to *give* her away.

*We aim to keep our black and cross bees at one yard; namely, the south yard.

GETTING THE BEES BACK INTO THE HIVE AFTER
LIVE-BEE DEMONSTRATION.

A CORRESPONDENT, in referring to the live-bee demonstrations that we have been giving at fairs and elsewhere, wishes to know whether the bees return to the hive readily, or do they cling to the cage after being shaken off the combs? Soon after they have been dumped into the tin pan many of them fly up and cling to the sides of the cage. While these can be scooped off by the handful, many stray bees will cling to the sides of the cage. If it can be left to stand over night, and the cover of the hive from which the bees were taken be put on catcornered, most of the bees will work their way back into the hive. It seems almost impossible to brush them off the wire cloth; and the more one brushes, the more they cling until they become vicious. We have brushed down what we could, and then picked up the rest one by one. Or if we can not wait, smash them and then collapse the cage, putting it into its case.

HELPING THE NATIONAL BEE-KEEPERS' ASSOCIATION
TO ADVERTISE HONEY.

It will be remembered that, some time ago, the National Bee-keepers' Association received the funds that belonged to the Honey-Producers' League that was organized for the purpose of advertising honey and creating a market for it. A good many at the time thought it was unnecessary to have two organizations. To make a long story short, the League finally voted to disband and to put the funds (nearly \$1500.00) into the treasury of the National, but on condition that such money should be used to spread information concerning honey as a food—in short, to create a better market for it. The National subsequently voted to accept the funds on the conditions named.

A short time ago, through its manager, Mr. N. E. France, it offered prizes for articles on the subject of honey as a food, and why it should be eaten. Out of over thirty sent in, ten were selected for publication. The National is now sending out a large blanket sheet containing all these honey articles. It is requested that the bee-keeper who receives them shall take them to his local papers and get one or more of them published as a matter of news. It is suggested that one article follow the other, thus keeping up a rapid gun-fire on honeys—nothing like *continuous* advertising.

If all the members will take hold of this properly, a great deal of valuable matter calculated to help the honey business, and in particular the local bee-keeper, will be spread broadcast, for these articles are carefully and conservatively written.

Mr. France announces that he has had several thousand copies printed, which members and others may obtain at the rate of \$1.50 per 100; \$2.00 for 250; \$3.00 for 500. Many bee-keepers would do well to buy a supply and scatter them among their customers, especially grocers and others who buy their honey.

We wish to offer a suggestion to the League committee having this in charge—that it endeavor to get one or more of these articles into "boiler-plate"—that is to say, get the firms that furnish plate matter for small local country papers to accept one or more of these articles and put them

into boiler-plate for distribution all over the country. It is well worth trying for.

We may say that they are an exceptional lot of newsy and instructive articles prepared for popular reading, and it is highly important that they receive as wide a circulation as possible. So let every one, whether a member of the National or not, help along in the good work.

DIAGNOSING COLONIES BY THE BEE-FLIGHT AT
THE ENTRANCE.

In our last issue, page 683, we spoke about giving room to colonies that show unusual activity at the entrance during a heavy flow of honey from fruit-blossoms. Since the flow began from white clover we have been giving room to all colonies at the south yard that showed strong flight, whether the colony where such activity was shown, needed room or not.

The flow has come on very strong. While it is customary to give supers only to strong colonies which, on examination of their combs, show the need of it, in this case we considered it wiser to give room according to the showing at the entrance, irrespective of the actual condition in the hive, providing, of course, it has a good queen and a large force of bees. Why do we take an external diagnosis rather than internal? Let us suppose a couple of cases which are real:

Here is a colony that has a moderate amount of brood in the hive, and a large amount of honey left over; but the bees, although a good force of them, are not flying much—but *why*, we do not know.

Here is another one that has a large amount of brood, with but very little honey in the hive; but the bees are tumbling down at the entrance. The honey-flow has just begun. It has used up all of its available stores in brood-rearing, and has been running "close to shore." The unusual activity at the entrance shows that these bees will probably need room long before the other whose hive is filled with stores and brood, but whose bees are doing nothing.

But there is another point about this external diagnosis that should be considered. When the flow is actually on, colonies needing room first should have first attention, after which the laggards may be given supers or combs. On the other hand, the hive that is sending a lot of bees out to the field should never at any moment be cramped for room in which to store the nectar; for if it starts to building cells, and the bee-keeper is careless enough to allow it to think of swarming, it may be almost impossible to break up the mania; so it is best to keep clear ahead of such bees.

But there is still another point. Entrance diagnosis can be detected by *one quick glance*. The hard workers and early fielders usually receive on top of the cover a stone or stick, or some mark to indicate which hive needs room first. After all the hives in the apiary that show that they will need room soon are so marked we give them supers or combs.

DIAGNOSING SAMPLES OF DISEASED BROOD.

DURING the summer, nearly every mail brings us several samples of dead brood to examine. In many instances there are no symptoms of disease

present, showing that the brood was very likely either starved, chilled, or possibly poisoned. We can not always be sure, judging simply from a single piece of brood-comb, and it is quite important that we receive by the *same mail* a description of the trouble as well. We should know the number of colonies affected, whether it was ever noticed before, whether there are other diseased colonies in apiaries near by, etc.

In sending the sample, select as characteristic a piece as possible, four or five inches square. Wrap it in paraffined paper and pack it securely in a wooden or tin box. (Do not use a cigar-box, as the odor of the tobacco almost entirely conceals any possible odor of the brood.) *Be sure to have your own name and address written plainly on the outside of the box;* for when there are several samples received at once there is no way of identifying them unless the name is given.

CUTTING ALFALFA BEFORE IT IS RIPE; THE ACTION OF THE IDAHO BEE-KEEPERS.

THE Idaho bee-keepers have hit on a very excellent way of helping the bee industry. They propose to inaugurate a campaign of education to induce alfalfa farmers to let their crop stand until it is in full bloom before cutting. It is quite probable they will be successful, as they have both science and practical experience in their favor. It is not a difficult matter to show that cutting alfalfa before it is ripe is poor business. By letting the crop stand for a few days longer they will get 20 to 25 per cent more of cured hay, and at the same time secure fully as good a fodder.

It is very true the early-cut alfalfa hay has a larger percentage of protein than the late-cut; but the latter contains quite enough protein to suit the most exacting feeder of farm animals. The early-cut alfalfa, on the other hand, is deficient in carbo-hydrates—very essential constituents of all foods, either for animals or men. As a matter of fact, the carbo-hydrates and protein in normal alfalfa hay are so perfectly balanced that there exists no special need of increasing the proportion of either.

It has been shown that we can make further improvement in the culture of alfalfa by allowing it to grow to its maximum before cutting; and then, when it is still in the cock, "sweating" it by covering with a piece of cotton cloth to protect the process of fermentation from the sun. In this manner the very highest grade of hay is produced.

The Idaho bee-keepers may also try to get the alfalfa farmers to mix a reasonable quantity of sweet clover with their crop. Even so great an authority as Joseph E. Wing recommends this course, as the animals like such a mixture, and it is probable the crop is actually increased thereby. The United States Department of Agriculture could do yeomen service along the lines here indicated.

There is one excellent rule for mowing alfalfa so as to get it to grow vigorously immediately after it is cut. It is this: Wait until the buds have started at the base of the stem before cutting. If this rule is observed the plants start to grow almost immediately after mowing. If the cutting of alfalfa is delayed too long after the appearance of the buds, the hay will be woody

and unsatisfactory. If cut too soon, alfalfa will be checked in its growth, and it will be long in yielding a second crop.

W. K. M.

A WORD OF CAUTION FOR THOSE WHO HAVE HONEY FOR SALE.

BEE-KEEPERS will soon be marketing their honey. At this time it seems proper to reiterate our annual caution to be careful *where* one ships. If the honey is sold outright he should be sure that the party to whom it is consigned is responsible. Let him go to his bank and have it look him up. If he can get no information he should require cash in advance or ship by freight C. O. D.—that is, send a bill of lading to some bank where the customer is located, requesting it to collect the cash before the goods are turned over.

Some argue that, if a house is not responsible, it is safe to send the honey on commission because the consignee can be arrested and jailed if he does not make returns; but if he is dishonest there is nothing to prevent him from making very meager returns, leaving the burden of proof on the producer to show that they are not entirely adequate for the quality of the goods. To do this requires the aid of an attorney and due process of law; and on small shipments the commission man knows it will cost more than the amount involved.

As a rule, bee-keepers should deal with only reliable commission men—particularly those who furnish regular quotations for the bee journals; and in every case where possible one should sell outright. If the goods are fancy or No. 1, and the house is reliable, a cash sale can usually be effected, for the business is getting to be done more and more on a cash basis.

In case one has a lot of off-grade honey—dark or otherwise inferior goods—it may be necessary to sell on commission. Such lots are usually disposed of in that way, for no house will buy outright a shipment of that kind when it does not know what it is, much less how much it will bring in the market.

As we said before in these columns, all dark or inferior-flavored honey should be taken out with the extractor. Nothing but the very best *table* honey should be marketed in sections, and even then all No. 2 should be sold around home.

It is well for the novice to understand that old producers who deal *on the square*—that is, sell their honey for *just what it is*—and offer only first-class goods, have no difficulty in making cash sales and at good prices—usually above the market. The dealer has come to *know* them for their square dealing, and he has no hesitation in entering into a cash deal, and not infrequently wires his acceptance of the quotation. In the case of some producers the honey is sold before it is actually off the hives.

THE HONEY SEASON AND PROSPECTS.

REPORTS from most localities in the clover belt continue to be very favorable. As a sample of what is coming in we make a few quotations:

Illinois.—"Bees in this section are gathering honey by the barrel from white clover."

Indiana.—"We have a big crop of white clover, and I think there is a fine honey prospect."

Kentucky.—"Bees are booming just now, with fine prospects for white honey."

Kansas.—"Never were bees in such fine condition; prospects are favorable."

Minnesota.—"Bees light but strong. White clover opens up well."

Kansas.—"I never saw bees in such fine order. If we have a dry year we shall have a good honey crop."

Iowa.—"Bees are in fine condition here. I have had several swarms."

California.—"Bees are doing well at Ioamosa, working on orange-bloom, and beginning on sage." Elsewhere in Southern California the reports are not favorable.

In the northern part of the State the situation is better. The following from the *Pacific Rural Press* will explain:

The *Chico Enterprise* says: "Orange honey, which is pure white, only slightly inferior to sage, will be a full crop, perhaps the largest in the history of the industry. The orange-groves probably will produce 25 carloads. Except for the fact that it crystallizes quicker, orange honey is equal to sage. The other honey-producing sections have been badly affected by drouth. In about 25 per cent of the hives the production will be very small. The other half will produce fairly well, but not a full crop. Last year the State produced 275 carloads. The holdings of honey are not large, but apparently many holders are not aware of the situation, and are still selling at below the actual value based on the prospective short crop. Whatever honey is carried over will be good property, as it does not deteriorate materially in a year. It crystallizes, but when melted it comes out all right and will remain in a liquid state for another year."

Wisconsin.—"Prospects are exceedingly good—never saw so much white clover."

West Virginia.—"We are having the best honey season we have had in ten years, and more swarms than were ever known before."

Pennsylvania.—"Prospects are that this will be one of the best seasons we have ever had."

Georgia.—"Bees have been doing well."

Florida.—"Some report good crops, and some report almost a failure."

In a general way we may say there have been heavy rains and hot weather. In most of the Northern States clover has come out remarkably well; and at this writing the flow is just beginning. But "there's many a slip 'twixt the cup and the lip," and therefore we are looking to see what old Dame Nature will do.

THE FOLLY OF ORDERING BEE-SUPPLIES TOO LATE.

THE following letter from a prominent dealer in bee-keepers' supplies in New York carries its own moral:

The A. I. Root Co.—Orders are now pouring in. Why don't bee-keepers order goods before they need them? Nearly three hundred dollars' worth of orders came in to-day.

Syracuse, N. Y., May 25.

F. A. SALISBURY.

In Mr. Salisbury's case we are informed that he has a large stock of goods on hand; but in most cases the dealer is swamped this season with orders because he can not get goods fast enough from the factory. The trouble is, the dealer did not lay in a large enough supply in the fall, taking advantage of the discount, and then when he calls on the factory he is unable to get the goods promptly. What is true of the dealer is more true of the consumer.

Bee-supplies should be bought and put together in the fall and winter months. It is folly to wait until the last minute, when the honey-flow is nearly on, before ordering the goods. Yet experience shows that is precisely what many are doing. They wait till they know there is to be a flow and then order. The honey comes with a

rush, but the goods do not. Result, they have bought and paid for something they can't use; the honey comes, swarms come out galore; kegs and barrels are pressed into service. The honey in such contraptions is not marketable, and then the dealer comes in for a scoring.

THE DIFFICULTY OF FINDING QUEENS IN A POPULOUS COLONY; WHEN TO CLIP; SEE FRONT COVER PAGE.

ON the front cover page of this issue we present a view taken in our home apiary, situated just back of one of the factory buildings, showing Mr. C. F. Bender, of Plano, Ill. (who was then in our employ), at work hunting for a queen in a populous colony. The scene is fairly representative of almost any section of our home yard.

We do not often have as populous colonies as this for queen-rearing; but the presence of the Boardman feeder at the entrance indicates that the colony in question is devoted to cell-building, for all such colonies, unless honey be coming freely from natural sources, must be given liberal stimulative feeding. Mr. Bender has removed the cell-building frame, and, as we remember, was hunting for a young virgin that emerged from the cell prematurely. Frame after frame had to be removed, and, as fast as examined, set down on end as shown. Sometimes the task of locating a virgin is a difficult one, as she may go off on a mating-flight; and even if she be in the hive she is but little larger than an ordinary worker bee, and her erratic dodging results often in a fruitless search.

That is one reason why queen-breeders have virgins mated from comparatively weak colonies or nuclei. The weaker they can be and still maintain their collective individuality without replenishing with fresh bees, the better.

But the picture shows another thing—namely, that if one practices clipping queens he should go through his hives as early in the spring as practicable, when the colony has a light force of bees, and when the queen can be easily located. To defer the operation until near swarming-time means going over the combs thickly covered with bees, not once, but sometimes two or three times, and not infrequently the searcher may have to close up the hive for the time being, and then come back an hour or two afterward and hunt again. Occasionally we have seen a colony like the one shown on the front cover, where the owner was almost in despair because he could not find the queen. He sees the eggs and brood in all stages. He *knows* she "is there; but where, oh! where is she?"

Where a colony is very populous, or is on the eve of a honey-flow, or right in it, the queen-hunt should be conducted during the middle hours of the day when a large percentage of the flying bees are in the air. If many are in the field, all combs removed should be stationed in the rear of the hive rather than the front. In this case we requested Mr. Bender to put them in front, where the camera could catch them.

In speaking of Mr. Bender we may say that we consider him one of the best bee-keepers and one of the closest observers in the country. He left our employ of his own accord; and in spite

of the fact that we offered him an advance in salary he said this was no object, as there were other considerations that required his presence at home.

BEEES IN SOUTH AFRICA.

BEE-KEEPING in South Africa is making progress. One of the drawbacks is the high price of the necessary bee-appliances, due to high freight rates by sea and land, and a high tariff besides. Certain birds and animals prey on bees; but by far the worst is a kind of wasp which seizes the flying bees. The colonists capture these nuisances by means of sticks or twigs coated with birdlime placed near the apiary. The wasps settle on these stakes for the purpose of watching their opportunity to catch bees but are held by the sticky stuff. One small twig will catch a good many. How would this work on the bee-hawks which infest some parts of Florida? They have the same habit of poisoning themselves on the end of a twig to watch their prey. The birdlime is made by boiling linseed oil for hours till it becomes quite sticky. It may also be made from the inner bark of the holly, the juice of the oleander, or the sap of the bread-fruit and similar trees. The following very interesting letter on the subject recently appeared in the *Agricultural Journal of the Cape of Good Hope*: W. K. M.

Locally this pest is called "bijvanger," or "bee-pirate." In Bechuanaland it very much resembles the common English wasp. If this is the same insect as is referred to by Mr. F. Lindenberg, I must beg to differ as to its method and reason for capturing bees. The bee-pirate catches the bee returning to the hive, for the purpose of robbing it of its honey. It first makes its appearance in spring, about the time of the first honey-flow, generally about 8 A.M., when the sun is getting hot, knocking off about 5 P.M., when the day is cooling. It sits near the entrance of the hive, and catches the bees returning heavily laden with honey, either falling with the bee close to the hive, or beating it off some score of yards. It disables the bee, but seldom kills it outright—at least, those that I have managed to find after the pirate leaves them crawl along the ground, unable to fly, generally being quickly despatched by ants. Bees laden with pollen are never touched. Though in hot weather at midday the bees will half cover the flight-board, they are not molested by the pirates, though the latter will also settle on the flight-board. This, I think, proves that it is not the bees alone that they are after. I know nothing that will do away with them. Quantities can be killed by striking them with sticks, and by setting birdlime on points of vantage. I have also tried placing the hives behind a big bush, so that the bees might have some chance among the twigs, but it was of no use. They know by instinct that the pirates are there, and will not work. We consequently have poor takes in this country, 30 sections being a good average. Not so in the Eastern Province, where I had no trouble in averaging over 90 sections for 20 hives. There are no bee-pirates there, and bee-foreage is abundant.

Section honey is most in demand. People will not take to Colonial extracted honey. They want proof of its purity by seeing the comb. I do not think it is of much use for the government to provide experts to encourage bee-keeping unless they first place a prohibitive tax on imported honey, reduce that on appliances, etc., and reduce railway rates. Even now honey fetches no better price near the coast than in England, and hives and bee-goods are 50 per cent dearer. In such a thinly populated country the demand for honey is not so great as it would appear, and too many bee-keepers would cause a glut in the market, and bee-keeping would cease to pay. Many Dutch and most Kaffirs prefer "young brood" to honey, both as a food and for making drinks and yeast. These will never be induced to produce honey.

I can not understand importing bees to this country, with the risks of foul brood, which, if it once obtains a footing, will never be eradicated. Our duty is rather to export bees. I believe our bees are equal to those of any country, and why not better? They are well marked and colored, most wonderful workers of excellent comb honey, easily handled with ordinary care, and more easily subdued than the English bee—provided they have honey to fill themselves on being alarmed.

I have had no trouble in taking wild nests and securing the bees. After driving the bees I tie a piece of comb containing young larvae in the hive prepared for the swarm. I then throw a few bees on the top of the frames and close down. I then, if possible, secure the queen and place her in the hive, and throw

the remainder in front of the hive, when they will soon run in. In a few hours the bees will be seen working. They will never leave, provided honey is obtainable; if not they may "hunger swarm," which is prevented by placing an excluder over the entrance and by feeding. This is advisable in any case, as in this country we have the death's-head moth, which enters the hive after honey, and a large black beetle which devours the young larvae. A space should, however, be left for the exit of the queen at swarming or mating time, and for the easier removal of dead bees.

W. H. EDMUNDS.
Vryburg, South Africa.

THE STAND OF THE ONTARIO DEPARTMENT OF AGRICULTURE ON THE SUBJECT OF SPRAYING FRUIT-TREES WHILE IN BLOOM.

ON this question we have just received from Prof. P. W. Hodgetts, of the Ontario Department of Agriculture, Canada, something that will be of special interest to bee-keepers and fruit-growers alike. Prof. Hodgetts represents both departments of the fruit-growing and honey-producing business, and his statement gives tremendous weight to the contention of bee-keepers and the intelligent and progressive fruit-growers of this country, that the spraying of trees while in bloom is attended with loss by both interests. His letter is as follows:

ONTARIO DEPARTMENT OF AGRICULTURE.

PARLIAMENT BUILDINGS, TORONTO.

Fruit and Honey Branch,

TORONTO, May 28, 1908.

Dear Sir:—I note in one of your late issues a reference to the spraying of fruit-trees in bloom, and the consequent loss of bees therefrom. This subject was thoroughly debated in full by our fruit-growers' and bee-keepers' associations a number of years ago, and an act was passed prohibiting the spraying of fruit-trees while in bloom. The act has been enforced in a number of cases, and for a few years a reward was offered by the Provincial Association for the detecting of such cases. For the past few years, however, we have done away with the reward, as it was not found to be necessary. We have been distributing placards among the members of the Association, and have asked them to place these prominently in their neighborhood. I am enclosing a copy of the same herewith. We believe that the practice has now been eliminated in the Province of Ontario.

Very truly yours,

P. W. HODGETTS, Sec.

A copy of the placard above mentioned is here given:

WARNING!

AGAINST SPRAYING FRUIT-TREES IN FULL BLOOM.

The Ontario Bee-keepers' Association desires to draw the attention of the public to the fact that a number of members suffer from persons spraying fruit-trees in full bloom, their bees being killed from the poison in the spraying mixture. This practice is prohibited by an Act of Parliament assented to in 1892, the provisions of which are as follows:

1. No person in spraying or sprinkling fruit-trees, during the period within which such trees are in full bloom, shall use or cause to be used any mixture containing Paris green or any other poisonous substance injurious to bees.

2. Any person contravening the provisions of this Act shall, on summary conviction thereof before a justice of the peace, be subject to a penalty of not less than \$1.00 nor more than \$5.00, with or without costs of prosecution; and in case of a fine or a fine and costs being awarded, and of the same not being, upon conviction, forthwith paid, the justice may commit the offender to the common jail, there to be imprisoned for any term not exceeding thirty days, unless the fine and costs are sooner paid.

The best fruit-growers consider spraying during the period of full bloom as a useless waste of material, and harmful to the setting of the fruit. It is universally condemned by entomologists in every part of America. The recommended formulas, as sent out by both the Federal and Provincial Departments of Agriculture, state distinctly to spray apple-orchards with Bordeaux and some arsenical poison: 1. Just as leaf-buds are expanding; 2. Just before blossoms open; 3. Just after blossoms fall; 4. Every ten days later if required.

Bee-keepers and fruit-growers are both urged to see that this harmful practice of spraying during bloom is stopped.

It is hoped that the law will not have to be applied, as most persons are unaware of the harm that they do themselves as well as the bee-keepers.

Signed on behalf of the Executive Committee of the Ontario Bee-keepers' Association.

F. J. MILLER, Pres.,
Ealing P. O., London.

P. W. HODGETTS, Sec.,
Dept. of Agriculture, Toronto.

BEE-KEEPING IN THE SOUTHWEST

BY LOUIS SCHOLL

There was no spring crop of honey this year. The bees are in good condition, however, and Central and North Texas expect a good summer crop.

The Texas Bee-keepers' Association has over a hundred members. Its next annual meeting will be in July, the dates of which will soon be made known. The convention is to be held at College Station, with the Texas Farmers' Congress. Many very important matters will come up at this time, so plan to be there, if a Texas beekeeper. Low rates.

A copy of "Southern Bee Culture," by J. J. Wilder, Cordele, Ga., has come to our desk. It contains 150 pages of "Bee-keeping of the South," treating the phases of the subjects in a practical way, with illustrations. Statistics are given showing the status of bee-keeping in each of the Southern States, together with a write-up of the industry of each of these. Texas heads the list, of course!

Southwest Texas, where the bulk of the honey of our State is produced, has reported a very light crop so far. Prospects were never better; but cool nights and rains that prevailed during the honey-flows "cut it off short." The early spring flows are the main dependence there, and the beekeepers do not "figure" very much on later flows. This is enough to predict a short crop for Texas this year, unless something unusual should happen.

Some people are not so innocent as they pretend. Just so in the case of Dr. Miller, p. 412, regarding who the authorities are that do not believe in painting hives. I do not side with your position if it is as outlined by the editor. In your 40 years of bee-keeping you have changed hives several times already. But what did you do with the old unpainted hives? Threw them away! That is a good argument in favor of painting, for "we-uns" who haven't so much money to throw away. I have changed hives once already in my sixteen years of bee-keeping; and the old hives, which are as good as new, practically, kept so by being painted three times during that period. I am selling off now instead of throwing away. The cost of the painting was gotten out of them in their use, so what I get for them is all profit. See?

DUMMIES IN THE BROOD-NEST.

Dr. Miller thinks that dummies should be placed in the center of the brood-nest in contraction, since the bees do not work above the dummies so freely when placed at the sides, p. 485. It would not work here during the breeding season; and that extends over the greater part of the year, as we have continuous, long, slow flows—more or less honey coming in, and breeding going on to keep up the strength of the colonies. Now,

those dummies, unless of the right kind (Aspinwall's, for example), would have a tendency to keep the queen confined to the few combs where she happened to be. Even a defective comb in the middle of the brood-nest often keeps the queen from getting over to the other side except during the heavy breeding season, perhaps, when she goes beyond; but her laying is retarded every time she comes to this comb. Wouldn't dummies cause the same results if placed in the brood-nest?

HIGHER PRICES FOR HONEY.

With a light crop in Texas, the same in California and in some of the other States, as indicated by the reports thus far, I can see no reason why honey should not range higher in price this season than last. 'Tis true that last year's prices were above the average of several years; but then Southwest Texas had at this time already produced and shipped several hundred cars of honey. While it is generally supposed, through reports from a few of the less favored sections of this State last year, that Texas had a short crop, it is a fact that much more honey was produced. In spite of this prices were good, owing much to the increased demand. This increased demand is quite a natural one. People here are beginning to know more about bees and honey, and the use of it. Many families use more honey now than formerly, also, and this number is increasing. Of course, the pure-food laws have had an effect.

PREVENTION OF SWARMING.

One of the main secrets (?) in the prevention of swarming is that of providing plenty of clustering room early in the season so the bees may not become crowded. The next is that of preventing a solid mass of sealed brood from developing in the brood-nest by spreading brood and inserting empty combs at the right time, thus providing laying room for the queen. Neglecting this is the most common cause of swarming fever. This congestion of sealed brood is difficult to prevent in deep hives unless combs are handled—empty ones exchanged for full ones, etc.; but in the production of extracted honey it is not so difficult, for the reason that extra super room can be given early in the season. However, the brood-nest must be watched in order that the crowded condition may be prevented, as such colonies often swarm even if there is plenty of room around the congested combs of sealed brood. A colony in this condition would swarm if it were domiciled in a large drygoods-box with plenty of empty space around it. The point is to break up this solid mass of brood.

W. H. Laws, of Beeville, Texas, places a body of empty combs on each colony early in the season for clustering room. Later, when the brood-nest assumes the condition above, the empty combs are used to replace half the combs in the brood-nest below, alternating the empty ones with those containing brood. The upper story is then arranged the same way, with the combs of brood taken from below, and the empty ones left in the super. This done at the right time knocks swarming in the head. If any of the colonies get strong enough to swarm after this manipulation, the upper story is removed to a new stand for increase, and additional room provided. It

is useless to try to prevent colonies from swarming after they have already gotten the swarming fever or have started cells. Such colonies are shaken (shook swarming), and their combs used for other purposes.

In comb-honey production it is much more difficult to manipulate the regular-depth L. hives. Almost all the manipulations necessitate the handling of combs, requiring a lot of labor and time. I have found the shallow-hive system a time and labor saver. An extra shallow super can be placed on the colonies much earlier in the season than a deep one. When the main honey-flow comes this which was used for additional breeding room is filled with extracted honey. Just before the swarming period, another shallow story with empty combs is slipped in between the two lower ones containing the brood-nest—a solid mass of sealed brood generally—thus breaking this up, and providing additional clustering and breeding room. This prevents swarming with us, and insures rousing colonies for the main flow. The comb capacity is then equal to 24 L. combs, all occupied.

When the comb-honey supers are put on they are placed under the upper shallow extracting-super, which is now full. There is no sealed honey, or very little, along the top-bars of the brood-nest, above which bees are loath to store. They are used to working above, and with a full super on top they go to work with a vim to fill up the empty space in the comb-honey super. Much better work is done under these conditions, and the colonies are such rousing ones that the yield must be larger than that from those managed on the plan generally followed. Furthermore, an extra super of extracted honey can be counted on as just so much more profit.

FANCIES AND FALLACIES

By J. E. CRANE

The quotations of the price of honey and wax in foreign markets is of decided interest to us, although we may have no honey to ship to Liverpool or Paris.

Mr. Fritzche, you look very happy among your bees, p. 288, and those sheds certainly look very comfortable this cold windy spring weather; but, say, "don't it nigh a'most" break your back to work your hives under those sheds?

"Honey from combs not yet bred in can generally be distinguished easily by the taste from that which is extracted from dark brood-combs"—Stray Straws, p. 275. Perhaps one person in five hundred can; but who ever heard of a buyer of extracted honey finding fault because it was extracted from old combs?

That "buttermilk honey," page 277, reminds one of some counterfeit bills in the Bureau of Printing and Engraving at Washington, where a bill is executed or printed, so to speak, with a

pen; and the same amount of time and industry in a legitimate way would have paid far better even had the counterfeit bill been worth its face value.

On page 275 V. Wuest is quoted as saying or thinking "there is no proof that the nectar of poisonous plants is harmful to bees." I was told many years ago, while in California, that in some parts of the State bee-keeping did not pay, as the buckeye, when in bloom, poisoned the bees. Plants that poison one class of animal life are or may be harmless to another. Aconite is very poisonous to man, but harmless to sheep; and swine are said to thrive on rattlesnakes.

On p. 349 Dr. Miller gives some advice to beginners in the production of comb honey. I can not tell how much it would have saved me to have had some such advice when young in the business. But say, doctor (I should not like to hurt your feelings—no, not for a good-sized doughnut), wouldn't it be better to advise beginners to begin with such sections and separators and bees as will give solid combs rather than to have to bother with two pieces of foundation in each section?

Dr. Miller says, p. 336, that he does not want to believe that bees are unusually long-lived just because they are lazy. Well, he need not believe it. Men are not long-lived just because they are lazy; and horses—don't you know some that will work harder and live longer by far than others? Constitution, strength, longevity, play quite as important a part with our bees as with other races. Don't we all know of colonies with a fair amount of bees and a sufficiently prolific queen that will but little more than hold their own during a season, while others no more populous, with a queen to supply them with eggs, will build up beyond our most sanguine expectations? The last will increase while the first will barely keep the same strength. How can we account for it, except far greater vigor and consequent longevity? It certainly is not in consequence of laziness.

When yellow bees fail to winter well, Mr. Alexander advises that two combs of honey be taken from their hives Sept. 1, to give the queen room for brood. Now, in more than forty years I have never known bees to be crowded for room at this season. The surplus with me is practically all gathered in June and July, while Mr. Alexander's best flow of honey comes in August. While his hives are crowded by September, therefore, my own are sometimes almost in a starving condition, and never need to have combs removed to give room for brood. I believe Allen Latham's views on spring feeding, pages 358 and 359, as well as those that follow, are quite right, and extracting honey in May should be limited to those seasons when there is a great abundance of honey coming in and the brood-chamber crowded, when the extractor may be used to advantage. I suspect that the greater flow of honey at Delanson during the early season is the only reason for the difference of opinion as to the advisability of extracting.

Another thing in this connection I will mention at the risk of being thought heterodox. All advise feeding early enough so fall-fed stores may all be sealed before cold weather. This would necessitate feeding in this latitude early in September; yet I rarely begin feeding before October, and find few or no bad results. The yard that I fed last (after the middle of October) last fall has wintered best. I do not think one-fourth and I doubt if one-fifth of the syrup fed was sealed, and yet that yard has wintered the best of any of my yards—in fact, perfectly, with a loss of only one colony, and that worthless in the fall. Doubtless to feed early enough to get feed all sealed may be best or ideal; and yet let no one feel that, because he has failed to do so, serious results will necessarily follow. I only wanted to say that I think more emphasis has been laid than necessary upon the need of having all stores sealed.



On page 285 is a picture of as fine-looking a lot of bee-keepers as we often see, and yet on the next page Mr. Holtermann tells us that, in convention assembled, they "resolved themselves into a series of hostile camps, being hot and cold 'processors,' thick and thin 'syrup-makers,'" etc. Well, now! They must have had a live topic; but, alas! all the argument and discussion in the world can not settle these questions. Whether the best results can be had by feeding sugar syrup thick or thin, hot or cold, slow or fast, with inverted syrup or otherwise, can be shown only by careful experiments. Why should sugar syrup need to be inverted? "I don't know." Does it make it more healthful food for the bees, or is it for the purpose of preventing granulation? One thing seems certain: If the bees are provided with a special organ in their mandibles for providing an acid for this very purpose, it must be of considerable importance.



On p. 281 is an article from the pen of E. W. Alexander, of unusual interest, as it shows how differently we must manage bees under different environments. He says, concerning Italians, "Their never satisfied desire to gather honey causes them to fill their brood-nest early in the season;" and so he advises removing this surplus of honey so the queen can fill the brood-chamber with brood. Now, such advice would be the worst that could be given *me*, for rarely do the bees fill their brood-chamber with honey, and the bees need all the honey in their hives for rearing brood, and frequently have to be fed in addition to what they have or gather. In only two years in over forty have bees crowded their brood-nests with me before clover bloom—once from maple bloom and again from apple bloom; and when such was the case the treatment which Mr. Alexander advises is the best possible. If he errs it is in thinking others enjoy as good a location in springtime as he.



On page 350 a paragraph is quoted from the *Prairie Farmer* on the use of honey as a food. In the last sentence it says, "The only obstacle in the way of its more general use appears to be that many people can not eat it without stomachic pain." The editor of GLEANINGS thinks the

editor of the *Prairie Farmer* away off, and gives us to understand that the stomachic pains come wholly from overeating of honey. Did you ever! Now, if the editor of the *Prairie Farmer* had said that "some persons" instead of "many persons" can not eat honey without stomachic pain he would, I believe, have stated the exact truth; and had the editor of GLEANINGS said that as many or more persons are made to suffer from overeating of honey as from any peculiar quality of honey he too would have hit the nail square on the head. Had he also stated that, where honey causes any disturbance of the stomach, whether from overeating or otherwise, a drink of milk will usually bring immediate relief, it would have been helpful.

CONVERSATIONS WITH DOOLITTLE

BEEES CHOOSING A HOME.

Several years ago, during one season I had three swarms come out, each several days apart; and as soon as all were out in the air they started right off without clustering; and all of my drumming, slinging of water, dirt, and such like, did not stop them. I used to scout the idea that bees looked out for a location before swarming, or while clustered for that matter. I thought they just wandered until they found a place. A year or two after the swarms I spoke of went away I saw bees going in and out of a crack in the siding of the house just under the plate on which the rafters rest, and I thought there was a colony in there; but upon opening a door to a small cupboard there was at that place in the house I found nothing. The next day the bees were there again; and about noon, as I was going to dinner I heard the roar of a swarm, and, upon looking up, thousands of bees were pouring on to the house and running into that crack. This thing continued for some minutes. Upon opening the door that night I found a nice swarm had taken possession of that cupboard. After this I put out hives and boxes all about the premises, in places where I thought the bees might like a home. I have watched the bees going out and in, cleaning up these hives and boxes in an eager and excited manner; and from a day to two weeks I have had swarms come and go into these cleaned places. At times I have seen the scout bees, as I call them, at work, and the next time I came that way I have found the swarm housed and at work. Can I doubt any longer, when, for the past four years, I get in this way each year from four to twelve swarms? I know now that these scout bees lead the swarm to the selected place.

Iowa.

I should have left this letter in its pigeon-hole had it not been that, on pages 1508 and 1554 of GLEANINGS for 1907 the editor says that he would be glad to hear from others on this scout matter. On pages 1507, '8, Mr. Greiner gives us some very interesting matter on the subject of bees choosing a home, and seems, on the whole, to come to the conclusion that these scout bees are sent out by the swarm as a "matter of compulsion" while the swarm is on the limb, rather than that they go out before the swarm leaves the parent hive to choose a home, so that the swarm knows where it is going before it leaves its old location. But, as Dr. Miller points out on page 1553, I do not see how he could arrive at such a conclusion after telling us that he saw these scouts at work the afternoon before the swarm came. But if I were one of those scouts, sent out from a swarm, I think it would be compulsory with me if I went at all, for I should never expect to see either my old home or the swarm again, but to die a homeless, starved, and chilled wanderer the next night after I went out, especially if my old home happened to be in a modern apiary. Why do I say this? Because if a swarm is allowed to hang

on a limb long enough to send out scouts, these same scouts *mark* their location from where the swarm is, and forget all about their old "parental roof." Very many times I have hung the clipped caged queen, with a swarm of bees, when I was not just ready to care for them as soon as they were clustered; and if thus left for an hour or more, there would be from ten to one hundred bees hanging around the place where the swarm had clustered, within an hour after it was cared for. The bees would stay there all the rest of the day, flying about in a lost condition, and occasionally rest on the limbs and leaves near by, clear up to nightfall, and in a very few instances I have known of a few of them being there during the next day, when the night was very warm.

Here is something about the swarming of bees that I have never seen in print, even if it has ever been noticed before by any one. Why any bee should entirely lose the location of the old home, when being sent out as a scout, is something which I can not understand; but I am quite sure that they do, for I have found them lifeless the next morning on the leaves and limbs where the swarm clustered, after a cool or cold night. Another thing pointing to such a conclusion is this: One day, just after a swarm had clustered, an urgent call came for me to go away for a little time. I hung the caged queen with the cluster and left them. I was obliged to stay till into the afternoon. On arriving home I prepared a hive and was about going to take the bees when they began to break cluster for leaving, and all went off out of sight, leaving the caged queen hanging there. As I always let three or four bees run with the queen into the cage when I am caging her, to care for her should any unforeseen thing happen, I knew she was all safe, so I did not disturb things at all, only to see that every single bee of the swarm not in the cage had gone. I was all interest to know just how this thing would come out, as it was something that had never occurred before in all of my bee-keeping life. The seconds passed into minutes, till ten, fifteen, eighteen, and twenty of them had passed, and I had almost come to the conclusion that I was out that swarm all but the queen, when I heard them coming back. I was now more curious than ever to know where they would go; whether to the limb from whence they went, or back to their old home; so I went to the hive, expecting to see a part of them, at least, return home. But, no, sir; not a single bee went back to the hive; but they clustered on that limb the quickest I ever knew of a swarm clustering in the world.

Now I am sure that swarms send out scouts while they hang on the limb, from the number of bees hanging about the clustering-place after a swarm has hung some time; for if the swarm is taken care of just as soon as the bees are clustered, or if the queen is held from them so that they return to their old home after clustering, none of these scout bees will be seen hovering around all day. The queen *must* be with the swarm, and the swarm hang some time, else the scouts will not be sent out. I have dwelt on this part of the matter more at length than I otherwise would because of this sentence from Dr. Miller: "I am strongly of the opinion, buttressed by much observation, that bees generally send out scouts before rather than after swarming." And I also am

equally sure that they send out scouts before swarming, and, as Dr. Miller says, "for several days;" and if he had put it several weeks I would not object. I will give only two of my many observations. The first was like this:

I put a hive in a tree at the side of the apiary for some squirrels to nest in, which came down from the woods near by. They built a nest and stayed till spring. One day during the swarming season I happened to look up at this hive when I saw bees going in and out at the hole I had bored for the squirrels, which led me to believe that a small swarm had taken possession of this hive. A neighbor had requested a small swarm for his boy, and so I told him I had it for him if he would get the hive from the tree the next morning. He came early, got the hive down carefully, so as not to disturb the bees, when to my chagrin, there was nothing but the squirrels' nest in the hive. At my request he put the hive back, and by ten o'clock that day the bees were going in and out at the squirrel-hole as thick as ever; and by careful watching I could detect now and then a shred of the nest taken off by some of the bees flying out from the hole. This was kept up for three days more, when we had two or three days of bad weather, during which I saw no bees at the squirrel-hive. Two or three days later it came off fair again, and the work went on at the squirrel-hive, and, one day later, a swarm commenced to issue from a nearby hive, and, to my surprise, they went right out from their entrance into the hole in this squirrel-hive, scarcely circling about at all.

The second, and the most exasperating of any of the very many scout cases which have come under my observation, was like this: An old bee-hunter came to me one day the latter part of June and said he had found a bee-tree, and wanted me to help him cut it in the fall so we could save the bees. He told me it was a big hard maple with a hole in the side of it forty feet from the ground. Passing that way two days later I looked at the hole and saw many bees going in and out of the same, so I took it for granted that he had tracked bees to the tree. One wet afternoon in September he came with a dull saw and ax for me to go with him to cut the tree. We took all that was necessary to get the bees and honey. To make a long story short, it was after four o'clock when the tree came down, and my hands were so blistered that I could hardly work the smoker, which we had going for an hour or more. Rushing up to the hole with the smoker to keep the bees from pouring out, not a bee was seen, and, what was more, not a bee could be heard. Ten minutes sufficed to "slab" off the side above the hole, when we found a cavity all nicely cleaned, but not a single bee, either dead or alive. Upon questioning the man closely he said he went by the tree two days before he told me of it, saw the bees going in and out, the same as I did, and was sure he had a bee-tree.

ARE BEES REFLEX MACHINES? in the Italian language is now being published serially by *Apicoltura* of Milan. The translation is from the English edition now appearing in GLEANINGS. The translator is V. Asprea, of Calabria, Italy.

GLEANINGS FROM OUR FOREIGN EXCHANGES

By W. K. MORRISON

With reference to Italian bees, I note some of the Swiss breeders around the Lake Maggiore mountain region claim to have the best strain of these bees, or what we term in this country the leather-colored Italian. It seems to me this is so, and some of the breeders on the lowlands advertise their bees as descended from that stock.

The Belgian journal, *Le Progress Apicole*, in a recent number prints an article by the editor, wherein he states that, on August 26th of last year, he saw a great many black bees working on violet (red) clover. He saw more of them thus engaged than he did of Italians and their crosses, though the latter are quite plentiful around there. Just score one for Dr. Miller's irascible blacks.

The *British Bee Journal* for April 16, 1908, contains a fine portrait and sketch of the career of Mr. Edward Bertrand, the well-known editor and author who did so much to popularize the Langstroth system of bee-keeping in Europe. His journal, the *Revue Internationale*, was a model of what a bee paper ought to be; and his book, "Conduct of the Apiary," has had an excellent sale, having been translated into six languages. He translated several other works from English into French, notably Mr. T. W. Cowan's books. He lives now in retirement at Nyon, Switzerland.

President Kramer, of the Swiss Bee-keepers' Association, has just issued a new book, "Die Rassenzucht der Schweizer Imker und die Amerikanischen Zucht Methoden." Taken all together it is the best work on queen-breeding I have seen. It contains a wealth of beautiful illustrations. The printer has done his part to perfection; and the paper and general *ensemble* leave nothing to be desired. President Kramer is broadminded, and gives America its due in respect to many little discoveries and inventions having to do with queen-rearing. This makes up a book of 168 pages, octavo size. It has the last word on queen-rearing, and it will be difficult for the next writer on this great little subject to surpass it. Such a book from so small a country makes we 'uns look *small*. The publisher is Paul Wassel, in Freiburg (Baden). Price 50 cents.

We do not monopolize the correspondence-school business by any means; for I recently received the catalog of a bee-keepers' correspondence course of instruction issued by Mr. P. Peters, of Baud, in France. During 1907 nearly 200 students took the course, and, so far as one may judge from a synopsis of the lessons, the studies must be of considerable practical value. Aviculture is also taught at the same place, the idea of the founders being to instruct students by mail in the small industries connected with agriculture. France for many years led the world in poultry culture, and even now is not much behind the United States. The French farmers excel us in the production of really superior table

fowls. The Peters school also supplies a course in arboriculture—a very interesting and practical subject, and one that ought to receive more attention in this country.

For more than fifty years lectures on bee culture have been given in the gardens of the Luxembourg, at Paris. The first lecturer was the famous Hamet, who founded the well-known Parisian bee-journal *L'Apiculteur* in 1856, and which is one of the best bee publications in existence. The present editor, Prof. Sevalle, is now the lecturer. The lectures are free to all.

The Parisian contemporary of GLEANINGS, *L'Apiculture Nouvelle*, contains in the April number an account of the principal bee-plants of France. The first is sainfoin clover, that celebrated standby of the European bee-keepers. It is very extraordinary that this plant has never been boomed in this country as a forage-producer, though it is one of the best known. It is not as heavy a yielder as alfalfa, but the hay is superior, and it produces a full yield of nectar wherever it is grown. Rustic alfalfa is also mentioned as a good honey-plant. This has been grown in Michigan to some extent. Perhaps this is the right kind for Ohio, Indiana, and Illinois. Buckwheat is mentioned as being grown extensively in Brittany, Auvergne, Morvan, and Bresse. I am under the impression that buckwheat is often used in France to feed poultry, and Bresse is justly celebrated for its fat chickens.

One of the European bee journals recently gave map illustrations of the distribution of the bees of the world belonging to the genus *Apis*. This included practically the whole of South America. As a matter of fact, there are none of our bees in the great valleys of the Amazon and Orinoco—not a single colony. There are honeybees, originally from Spain, in the highlands of Colombia and Venezuela, but the stingless bees in myriads occupy the great river valleys. Our bees, when introduced, soon die out. Their enemies are too numerous. Prof. Frank Cheshire fell into the same error as our German contemporary. South America has native bees that sting, but they are very different from *Apis Mellifica*, and were there long before Columbus sailed from Cadiz in 1492. *Apis mellifica* bees are quite common in South Brazil, Uruguay, Argentina, Chile, and Western Peru, where the conditions are more favorable.

I have received a copy of the anniversary number of the Manila *Daily Bulletin*, sent out by the publicity committee of the Manila Merchants' Association. The number now before me is a remarkable tribute to American enterprise. Its 78 pages are twice the size of GLEANINGS, and it is beautifully illustrated with many half-tone engravings. It is chiefly devoted to showing the agricultural features of the Philippine group. There are fine articles on the forests, fruits, fibers, orchids, oil-plants, nuts, starch-plants, and railways and water transport. Most of the information would be a revelation to many Americans—at least 95 per cent of them. Any one who has a notion of trying colonial tropical life ought to send for a copy. Price 34 cents.

EXTRACTED - HONEY PRODUCTION.

Uncapping the Honey.

BY W. Z. HUTCHINSON.

Continued from last issue.

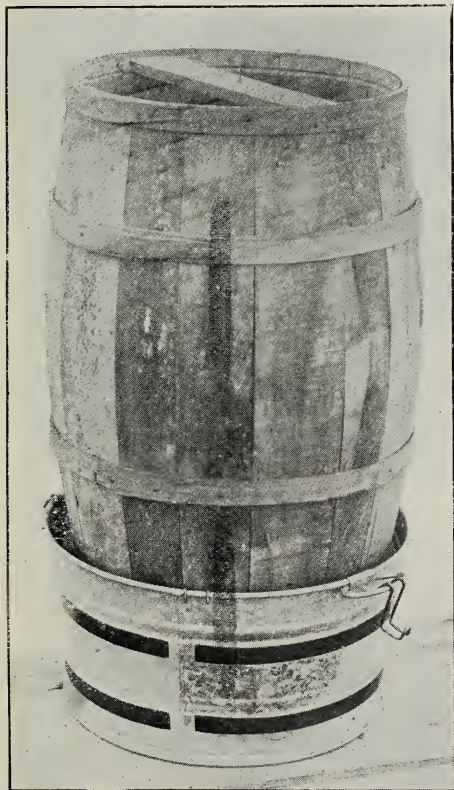
It is possible that the California plan of melting the cappings as fast as shaved off may prove the most desirable plan; but, so far as my experience goes, I have found nothing better than letting the cappings drop into a cracker-barrel set over a tub. Some grocers give the barrels away, if you are a customer; some ask five cents apiece for them, and I never paid over ten cents. The cappings can be allowed to stand and drain for weeks and weeks—no hurry about the barrel; simply pay ten cents for another one.

I bore three or four holes in the bottom of the barrel for the honey to run out. This may not be



LAMP STOVE THAT KEEPS THE UNCAPPING-KNIFE HOT.

Honey extracted in hot weather, soon after it is gathered, may not require a hot knife for its uncapping; but to uncup in the cool weather of the fall, honey that has been on the hives all the season, a hot wet knife is almost a necessity.



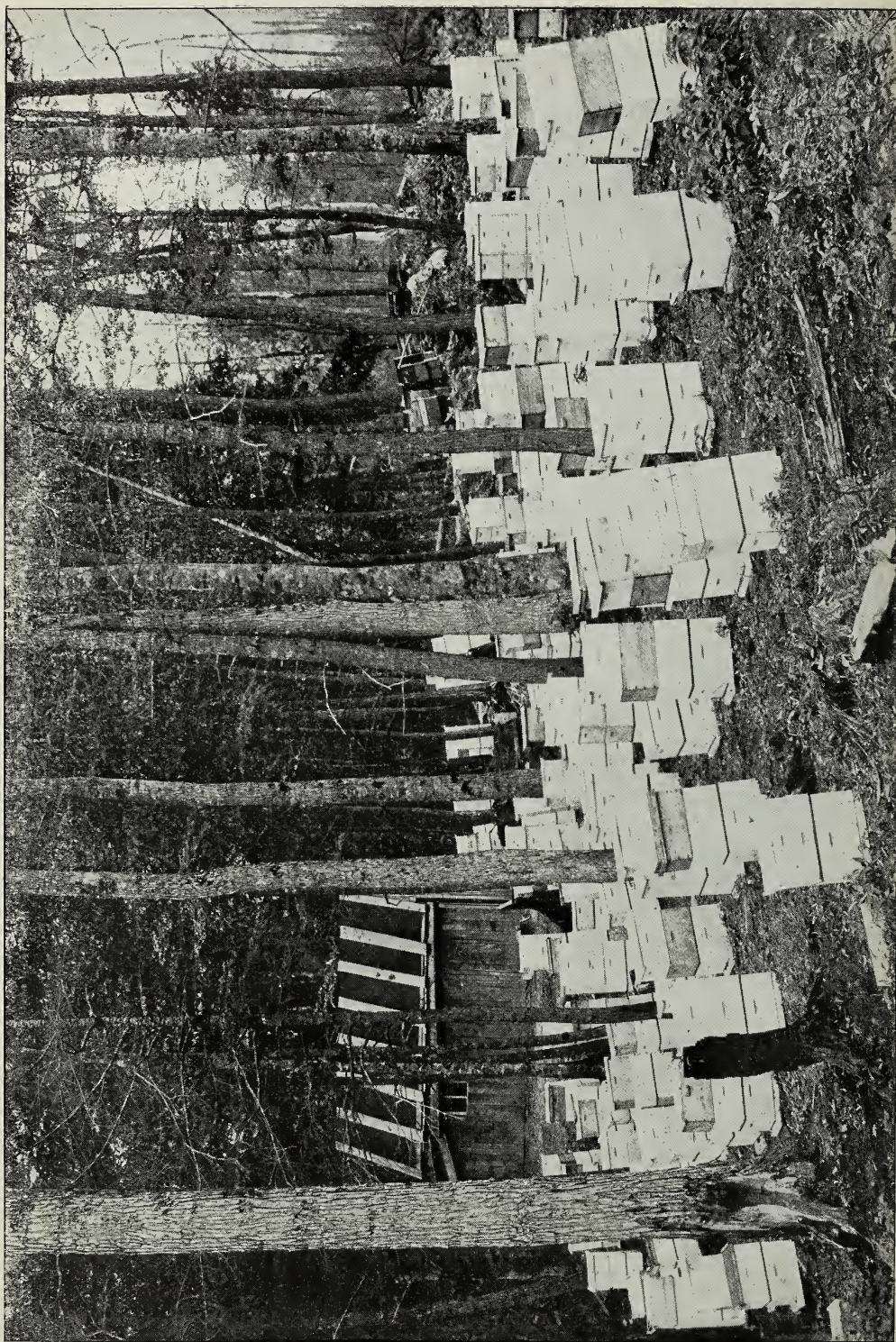
CRACKER-BARREL FOR AN UNCAPPING-CAN.

After a barrel is full it can be set to one side, over a tub; or two or three barrels can be stacked up, one on top of the other, and allowed to drain for weeks. The cappings can be brought home, or even shipped by freight, right in the barrels.

necessary, as such barrels are not water-tight; but it is a wise precaution to be *sure* there is a place for the honey to get out. Then I nail a wooden cross-piece just inside the top of the barrel; but before nailing the cross-piece in place I drive through it a ten-penny nail; and when putting the cross-piece in place I turn the point of the nail upward.

In uncapping a comb the end of the frame is rested upon this nail-point, which comes as near being a universal joint as any thing with which I am acquainted. The frame can be turned "every which way," and it will not slip about. The barrel is supported over the tub, or slightly below the top, by means of double hooks made of heavy wire. In the accompanying engraving one of these hooks is hung outside, upon one of the handles, to show its shape and make-up. Four hooks are used, placed equidistant around the edge of the tub, and the barrel lowered down upon them, the hooks catching just inside the "chime." There is still another plan of supporting the barrel that has the advantage of furnishing handles with which to lift the barrel, and that is to nail two slats of wood to the sides of the barrel, about four inches from the lower end. The slats are nailed to opposite sides of the barrel, at right angles to the staves, and are long enough so that the ends rest upon the upper edge of the tub. The only objection to this plan is that the ends project out slightly beyond the edges of the tub, and are just a little in the way.

After the honey is off the hives, and warmed up, the biggest part of the remaining work is that of uncapping the combs. If they are thick and "bulging," they can be uncapped much more easily. If only eight combs are used in a ten-



ONE OF THE HUTCHINSON APIARIES IN NORTHERN MICHIGAN.
This view was taken just before beginning to extract, and is, perhaps, a fair average of the tiering up at that stage of the program

frame super they will be of this class, when, by cutting deeply, so as to leave the combs only about one inch thick, each side can be uncapped with one "fell swoop." It was hard for me to get over the feeling that I ought to uncup as thinly as possible—that thick cappings were like thick parings from a potato—but it really makes little difference whether the honey goes through the extractor or drains from the cappings.

To do the best work when uncapping, the knife ought to be sharp, hot, and wet. Only the man who has tried it can realize the difference between such a knife and one that is cold, dull, and dry. I have a little two-burner oil-stove standing upon a barrel at my elbow, and upon the stove a tin or pail filled with water. When through uncapping a comb I simply lay the knife in the hot water, as it is just as easy as to lay it down somewhere else. When I begin uncapping the next comb, the knife is hot and wet; and the way it will slip through the comb is a caution. If this management did not keep the knife hot enough, then I would use two knives, leaving one in the hot water while using the other. When heating up the honey with the Perfection heater, we found that we could dispense with this small stove by using two pails of water, leaving one on the Perfection heater, while the other sat upon the barrel at the side of the operator. When the water became too cool we simply changed places with the pails.

Very new combs or very old ones do not uncup as easily as those that are between the extremes. An old comb that has recently been drawn out thick—that is, the bees have lengthened the cells, partly with new wax and partly with wax taken from the old comb, is about the nicest comb to uncup. The lower part of the comb has a stiffness or stability, while the upper part has sufficient softness to make it cut easily. A man can afford to go to a lot of pains and expense to get exactly the right kind of combs to use in his supers—old combs spread wide apart—as the saving of time in uncapping is very important.

To uncup a comb, rest one end upon the nail-point of the cross-piece over the barrel. Stand the comb in a nearly upright position. Hold it with the left hand, grasping it near the upper end. Begin at the lower end to uncup, giving the knife a sort of slanting, shaving movement, such as a barber gives his razor, drawing it back and forth as it cuts its way upward, at the same time slanting the comb slightly forward (toward the knife) so that the cappings, as they break off, will drop into the barrel instead of upon the surface of the comb.

THE EXTRACTOR.

I have used the two-frame reversible and the four-frame automatic reversible, and I have seen the eight-frame automatic in use when run by a gasoline-engine. My preference would be the four-frame automatic. It is certainly worthy of all praise. The brake, the automatic reversing of the combs, the ball-bearings, are time-savers and great comforts. The machine is inclined to run more steadily than the two-comb machine. There is less of that wobbly motion if the combs vary in weight. Power is needed to run the eight-comb machine; and, as the only object in using this machine instead of the four-comb is to save time, I doubt the expediency of employing

it, and the attendant power, in the plan that I am following. There is no special hurry to get the extracting done, as when fewer supers are used and some of the combs must be emptied to give the bees room. To run the eight-comb, with power, requires a crew of men to work to advantage, while one man can work very advantageously with the four-comb; or two can work together to very good advantage. If I were to adopt the eight-comb and power, I would get only one extractor and one engine, and then move them from one yard to another, as the work was completed at each yard. This, of course, would require a team, while I am trying to work out a system in which there is no transportation from one yard to another during the entire season, except that of the man who does the work.

The manner in which the extractor is set up to do the work will depend upon the surroundings. We have three extractors, and each is set up in a way different from the others. Where we extract in the cellar the extractor is set nearly a foot above the floor, and then a hole, or pit, nearly two feet deep is dug, in which to set the strainer-tub and cans to be filled. Of course, the sides of this pit are boarded up. At another apiary the honey-house is built over the cellar, and here the extractor stands directly upon the floor, the gate being placed over the hatchway, the straining and canning of the honey being done in the cellar. The honey runs out of the gate, falls down through the hatchway, and drops upon the strainer below. At the other yard a solid platform, nearly three feet high, is built in one corner of the honey-house. This platform is large enough for the extractor, for the man to stand who turns the crank, also for one or two supers of combs to stand, side by side. An extractor at this height from the floor allows room for the strainer, and for a man to stand upon the scales below the honey-gate of the strainer-tub.

To be continued.

DR. MILLER AND THE USE OF QUEEN-TRAPS.

Their Use and Abuse.

BY R. L. TAYLOR.

For the purpose of discussing queen-traps and clipped queens, Dr. Miller starts out with what purports to be a quotation from an article of mine on the subject, as a text. He has evidently made the quotation from memory, and, relying on that, his memory has played him false. The language he chiefly criticises is not to be found at all in the paragraph which he ostensibly quotes; even the subject of queen-traps, which is his main topic, is not mentioned in that paragraph at all; yet these phrases, with some correct quotations, are thrown together with comments of the editor and remarks of his own, all duly marshaled under quotation-marks, proclaiming "this is a literal quotation."

Beginning with the above paragraph I set out to reply to the article by Dr. Miller on page 556, and it was followed by a mild criticism of his method of making quotations. Since writing, however, I have been informed that the doctor was in nowise responsible for the quotation-marks,

nor for the mention of my name in connection, but that the proof-reader has to bear the blame. The doctor, therefore, is entirely exonerated, he having simply paraphrased what I had said and what the editor had said I had said. The doctor's fault is, I think, that he should have realized that a paraphrase of a paraphrase stands a small chance of doing reasonable justice to the original. Even so I am not averse to following him through the refinements of his discussion.

He first attacks an expression found in the assumed quotation; viz., For queens are likely to be superseded at any time, for any cause, without the knowledge of the apiarist. Concerning this expression he asks whether it is not slightly overdrawn. Well, perhaps it would be misleading if readers had little or no knowledge of the habits of bees. But I always feel a strong hesitancy about entering into details of which my readers have as much knowledge as myself. Who of my readers would think that sentence was to be understood as intimating that bees were likely to supersede their queens in winter? or who but Dr. Miller that they were as likely to do it in May as in August? Were I to say that in this locality it is likely to rain in January, who would suppose that I meant to affirm that it was as likely to rain then as in April? But, after all, that was not my language at all; what I actually did say was simply this: Queens are superseded; accidents happen to them, sometimes. Is not that harmless enough?

Again, how is it possible for the doctor to understand from "page 19" that I meant to affirm that "the new queen, after she gets to laying, is likely to go off with a swarm"? In our former controversies Dr. Miller had sometimes resort to the assertion that I was unfair. I have no inclination to retaliate in kind; but, rather, I feel as Job may be supposed to have felt after his adversary had written a book, if the old version of him is correct; for did he not exclaim, Oh! that mine adversary had written a book? If I am misrepresented I only ask a fair hearing—then let the record declare judgment. But, to return to the point: Does not every bee-keeper of any experience know that a colony, even if of only fair strength, having young queens emerging during the swarming season, either on account of superseding or for some other reason, will generally cast a swarm? and do they not know that the swarm is always led by a virgin, not a laying queen? The first swarm I had last season was led by a virgin queen, and it was not a solitary instance.

Further on he asserts that I practically say, don't clip, but put a queen-trap on each hive, etc. How could the doctor make that assertion? Perhaps the editor is partly to blame, for the quotation in GLEANINGS does not at all bring out the points in my argument in favor of the trap. It might have been an advantage to the doctor had



WAYNE PAVILION, OR SUN PALACE, WHERE THE NATIONAL

he had before him the article from which the quotation was taken. I should have been glad to furnish him with a copy if only that he might have correctly stated the restrictions which I would place upon the use of the trap. What I do say is, don't clip; let the bees swarm naturally when there can be an efficient attendant; but when such attendant can not be had to care for the swarms, then use traps to be visited every three or four days, for traps will prevent all absconding, while clipping will by no means do that. Clipping a queen prevents her from leading off a swarm; but when she is lost or killed, as she is likely to be soon if not cared for, it is but a question of a few days when a young queen will emerge, and in all probability undertake to escape with a swarm.

The trap, of which the doctor makes so much, is not even mentioned in the quotation on "page 19," but the doctor is after the trap, and asks whether it would not be natural for some readers, at least, to put on traps in the spring, leaving them thinking that thus the matter was settled for the year, thus destroying the unmated queen, and, through that, the apiary? No doubt, no doubt. I have known of cases of bee-keepers clipping unmated queens.

As a result of his neglect to secure and read my article from which the extract on page 19 is taken, the doctor falls into the error of appearing to attempt the riding of two horses at the same

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As a result of his neglect to secure and read my article from which the extract on page 19 is taken, the doctor falls into the error of appearing to attempt the riding of two horses at the same

time, by criticising my method of managing swarming without clipping, on account of the necessity of sorting out queens from united swarms, on the one hand, and, on the other, criticising what he supposes, apparently, to be my advice and practice in regard to the use of the trap, as though I used at the same time both the free-flying-queen system and the queen-confining-trap system on the same colonies.

The doctor seems at a loss to understand why a queen in a trap through which a swarm has just passed should be more effective in recalling the swarm, or, in other words, in putting them on their good behavior, than a queen hopping about on the grass, and asks for a reason. The reason seems plain; a queen hopping about on the grass has no abiding-place. Generally for some time there are few or no bees with her, and the bees are not inclined to look for her in the grass; but when they fail to find her in the air they naturally seek her at the hive, where they last knew her to be; and as she is there with a retinue, the swarm, if in the air, is soon notified, and returns more promptly than they would if she were not so found. In other words, they discover their queen more quickly, and so have less time and opportunity to unite with other swarms. But I may not understand on just what point the information is sought. It may be with reference to the matter of swarms uniting and entering

other hives than their own. In answer to that I should say that, in addition to the above, I make no claim of advantage for the trap in that respect over the clipped-queen system. But remember, it is not traps against natural swarming with an attendant, but traps against clipped queens in cases where there can be no attendant. I can't be sure; but I rather guess that, if the doctor were taken suddenly ill, or called to a distant wedding or funeral, in the height of the swarming season, with no possibility of obtaining any one to look after his bees, he might, possibly, remember traps with a certain longing; or would he prefer to trust to clipped queens?

In a nutshell, when there is an attendant the doctor prefers clipped queens during swarming. I prefer the queens unclipped on account of the more rapid settling of the swarms and the increased freedom from uniting and from the entering of strange hives. When an attendant is wanting I prefer traps, because in such a case they are the best security against the loss of bees, but they should have attention twice a week. In such a case the doctor prefers—?

Lapeer, Mich.

[As Mr. Taylor intimates, Dr. Miller was not responsible for the quotation-marks inclosing his first paragraph on page 556, May 1st issue. Owing to a difficulty with eyesight, as explained editorially on page 683, last issue, we did not discover the presence of the aforesaid marks. When Mr. Taylor sent in his article he very naturally inferred that the doctor was misquoting him, and very properly called him to account. When we explained the matter to Mr. Taylor, he exonerated him and substituted other paragraphs.—ED.]

WOOD SPLINTS PROPERLY APPLIED SUPERIOR TO WIRE.

How to Prepare and How to Apply.

BY B. F. AVERILL.

I note Dr. Miller's article in April 1st GLEANINGS; and as I find wood splints, properly applied, to be superior to wire, I will submit my plans. I am not asserting that any of the ideas advanced are better than those hitherto given, but they may be found more practicable by some operators. If the plan of using splints is coming into more general use, the best possible methods of application should be put forward at as early a time this season as possible in order to give bee-keepers a chance to test them.

My plan of using the splints incorporates them with the frames as well as with the foundation; and thereby I secure a more substantial comb than if incorporated only with the foundation.

The first essential part of the plan is to have top and bottom bars grooved in the center to receive the ends of the splints. A saw-kerf $\frac{1}{8}$ gauge



WAYNE PAVILION, OR SUN PALACE, WHERE THE NATIONAL BEE-KEEPERS' CONVENTION WILL MEET, OCT. 13, 14, 15, 1908.



JOHN BAILEY'S DISPLAY OF HONEY AT THE BRACEBRIDGE EXHIBITION. ONTARIO, CANADA.

and $\frac{1}{8}$ deep is the most suitable dimension to adopt. The splints should be $\frac{1}{16} \times \frac{1}{16}$ or $\frac{1}{16} \times \frac{3}{16}$. The latter dimension is better for splints properly built into combs on a good flow of honey.

The splints are $\frac{1}{4}$ inch longer than the distance between the top and bottom bars, inside measurements. Waxing is best, but may be dispensed with in a good honey-flow.

To wax the splints, take a dozen or two at a time between the fingers and twirl them in a vessel of hot wax. A little practice will develop the requisite skill. It is not necessary to wax the *entire length* of splints. There will never be any gnawing of foundation around the splints *near the top-bars*. It is at the bottoms of combs being built that all the cutting-out is done.

So you can leave two inches at one end of the splints safely, and the waxing is a small job comparatively. Just stand the splints on end in a leaning position until you have enough supplied for the foundation to be used that day, or a week or month later.

Now, in putting in the foundation you have two inches of unwaxed splint to handle them by. Take hold of this portion and insert the waxed end in kerfs in the bottom-bars, and *spring* the splints into the top-bars. That is the whole process. Now, by using eight splints there is no need of *fastening* foundation to the top-bars. This saves much time, and all that is requisite to success is to be *sure* the foundation fits *close* to the top-bars. If bottom-bars are not of good thickness to support the weight of heavy combs, there is going to be sagging sooner or later. I would advise gluing in a splint to the top and bottom bars through the center of each frame. This unites the top and bottom bars at the center of the combs, and no sagging of combs is possible.

For imbedding splints I use a small wooden roller. Imbed the foundation by placing the splints on the bottom of the foundation and the

roller on the top. It is easy work compared to wiring, and a much greater amount of foundation can be stayed in the same length of time.

I wire many frames for purposes that I can not take room to explain. I am situated so as to make a pretty accurate estimate. As regards wiring, I find the principles of application generally faulty. It is reasonable to suppose that the greatest strain upon foundation occurs near the top of the frames; hence here is the proper place for applying the maximum support. I never use more than three horizontal wires, and not 25 frames in 1000 show the least sign of stretched foundation. My first wire is placed $1\frac{1}{4}$ inches from the top-bar; second wire, $1\frac{3}{4}$ below the first wire; third wire, $2\frac{1}{4}$ below the second wire, and $5\frac{1}{4}$ below the top-bar. The foundation *below* the third wire from the top-bar is not going to stretch; and if all wires are put in reasonably tight the foundation will not stretch anywhere in working.

I have been wiring combs over 30 years, and have used splints 23 years. I like wood splints the best, but wiring is good enough, though it takes more time.

Howardsville, Va.

[The question may arise whether it would not be advisable to use a combination of wire and splints. Three or four horizontal wires stayed up through the middle by one or two wooden splints might retain the advantages of both systems. Who has tried it?—Ed.]

L'Apiculture Nouvelle mentions the fact that Servia now has a bee journal edited by Mr. Christophe Mechoulya, and published at Belgrade. Our Austrian friends have done a great deal to improve the agriculture of Servia, and that the country, small as it is, supports a bee journal, shows some one is doing good work for apiculture.

A NOVEL HONEY EXHIBIT.

A High-class Business Deserves a High-class Display.

BY JOHN BAILEY.

The reason why I like to make a good exhibit or display of my bees, honey, and wax is because it helps to advertise my business, because it introduces honey to the public, and because it helps to sell *my* honey. It also helps to increase the gate fees at our exhibition. Part of my exhibit is not visible, such as the observation hive and the tin and glass packages, of which I had about fifteen different kinds. The wax horsehead on top was made in a mold, as were all the cones, etc. I like to have the display of honey high enough to show above the heads of the crowd of people. A white background shows the honey well if it is put up in glass, and not too close together.

Bracebridge, Ont.

MAKING INCREASE.

The Somerford Plan Modified; the Alexander Plan not a Success During Apple-blossom Time.

BY J. A. CRANE.

When I wish to use a colony for making nuclei I remove the queen as directed in the May 1st issue, page 577, placing her in a cage on top of the frames. I leave her there three days, at the end of which time there should be cells started. I then take one frame with a little brood, and place it in a hive of drawn combs; set the colony off its bottom, and place the hive of drawn combs in its place, letting the queen run on to this one comb of brood. Over this I put a queen-excluder, and set the hive of brood on top, and put on the cover. The bees will finish the cells just as well as if the queen were caged for the ten days, and a new colony will be started below, so that, when the cells are nearly ripe, we can take the brood and bees from the upper story, and form nuclei without having to leave a single frame or any of the bees that are on them. If the colony was very strong there will soon be a good working colony on the old stand. By this method we are able to make one more nucleus from a colony than by the original Somerford plan. Any hive which we intend to use in this way we build up before caging the queen, so that there is a large amount of brood in every frame. I let the queen start about all the frames, and then set the fullest ones on the outside of the brood-nest, and in a short time have them all practically full of brood.

I make my nuclei by the Somerford plan, and sometimes stuff the entrances with grass, but oftener close them with a stick for three or four days. When I open them I push the stick so as to let only one or two bees pass at once for a couple of days, then open two inches. I have had brood in seven frames within fourteen days from making the divisions, and the bees storing in extracting combs in thirty days.

Last season I tried the Alexander method of

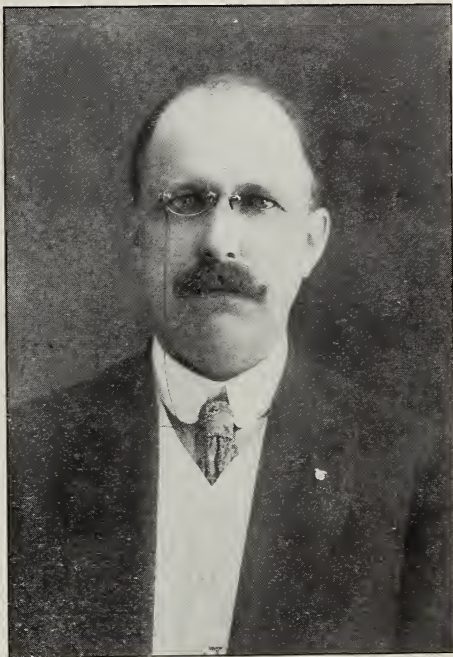
increase during apple-blossom, and instead of the queen making a start toward a brood-nest below the excluder, the bees jammed the lower story full of honey before there was a patch of brood as large as my hand. They refused to carry it above after I gave them extracting-supers, and, after a little, swarmed. I think it would have worked all right on a slow honey-flow, but I shall not try it again during apple-blossom time.

Marion, N. Y.

D. E. MERRILL, OF THE W. T. FALCONER MFG. CO., JAMESTOWN, N. Y.

BY E. R. ROOT.

As announced in our last issue, Mr. D. E. Merrill died on the 16th of May after lingering between life and death for six days following a paralytic stroke that he received at Bemus Point, on Lake Chautauqua, whither he had gone with some friends.



D. E. MERRILL.

Mr. Merrill had not been in good health for five or six years. Two years ago he received a slight stroke of paralysis, but apparently recovered. A couple of weeks ago with a party of friends he went up the lake, stopping at the place mentioned above. While at dinner, and without any warning, the fatal stroke came.

Mr. Merrill was 49 years of age, and leaves a wife and three children. He was prominent in Masonic circles, being a 32-degree member, and a member of the Royal Arcanum. In a social way he was connected with various clubs, and in

a business way was the junior partner of W. T. Falconer, of the W. T. Falconer Mfg. Co., so well known to our readers.

He started in business originally as a clerk in a wholesale grocery, and later was appointed paymaster in the United States Navy, finally entering the Signal Service. After this he was a book-keeper in a number of large institutions. In 1882 he started the manufacture of the Empire washing-machine, on which he obtained several patents. A little later he entered into partnership with W. T. Falconer, forming what is now known as the W. T. Falconer Mfg. Co. The washing-machine business appears to have been taken over, and later on the company went into the manufacture of advertising novelties, including rules, thermometers, and other specialties of a like nature, the making of bee-supplies being continued as before.

It is almost needless to say that the manufacturing business of the W. T. Falconer Mfg. Co. will go on as before.

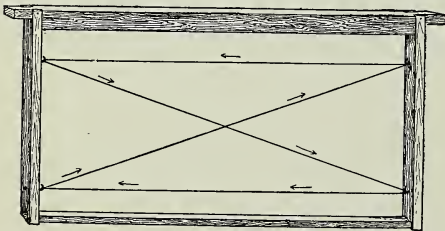
WHAT A 17-YEAR-OLD BOY CAN DO.

Wiring Frames Without Piercing the End-bars.

BY WM. M. HASSLER.

The two boys shown in the engraving are my brothers, who are very much interested in bees, especially the younger one, who is eleven years old.

I commenced keeping bees myself four years ago with one box hive, when I was 17 years old. I now have 15 colonies in Danzenbaker hives, with 11-inch telescope covers. I winter them on the summer stands, and have always had good success. I make a brick of hard candy for each hive, and put it over the frames (*a la* Abbott), and I believe it is a good thing. From nine colonies, spring count, I produced nearly 500 lbs. of comb and extracted honey; but most of it was No. 1 and fancy comb in 4×5 sections. I think



most of the honey was from smartweed, which grew in abundance after the hailstorm which swept this part of the country and ruined the crops.

How can I prevent bees from gnawing the fences? What do you think of this way of wir-



THE HASSLER BROTHERS, OF PRINCETON, ILLS.

ing frames? Drive two nails, about 1½ inches long, in each end-bar; bend them into hooks, and wire, as shown in the diagram.

Princeton, Ill., Feb. 17.

[If your fences are made with the proper-sized bee-spaces, and the bees persist in gnawing the slats, it would be best to supersede the queen. It is not often that the bees give much trouble in this way unless the slats are too close together.]

In the end your method of wiring the frames will not prove to be very satisfactory. The foundation at the point where the wires cross is held rigidly; and since there is nothing to prevent the upper half from sagging, buckling is quite often the result. This plan, known as the Keeny, has been used for years, and, so far as we know, has been generally abandoned.—Ed.]

ASPINWALL SLATTED FRAMES.

Using them with Langstroth and Hoffman Brood-combs, to Prevent Swarming, not Likely to Prove Successful; Closed-end Frames in a Box vs. Closed-end Frames in a Rack or Frame.

BY L. A. ASPINWALL.

[In order that our readers may better understand the points brought out by the inventor (Mr. Aspinwall, of the Aspinwall non-swarming hive with its slatted dummy frames), the reader is referred to the illustrations which we used in our issue for Nov. 15th, 1907, pages 1441, 1442, and 1443, of this hive. We will explain that we wrote Mr. Aspinwall that several were writing us, asking why those slatted dummies without the bee-space end-bars could not be used in an ordinary Langstroth brood-nest, one dummy alternating with every other brood-comb, increasing the capacity by adding extra stores. Mr. Aspinwall answers this in the subjoined article.—Ed.]

Many have asked why the Aspinwall slatted frames could not be used in connection with standard Langstroth and Hoffman frames, and thus make a non-swarming hive. Apparently, at first thought, the saving would be an advantage

in that only a larger hive-body would be required, or two regular stories with slatted frames alternating the combs instead of one story and no slatted frames. If, however, estimates be made covering the cost of material for a large closed hive-body and an Aspinwall open rack or frame, I believe a balance would be found in favor of the latter. Taking into consideration the width of material used in each, we shall find narrow and small pieces of lumber used almost exclusively in the Aspinwall hive.

Furthermore, while some have expressed an opinion preferring solid or closed sides, there are two reasons why the frames should be supported with the least closure possible. This applies to closed-end frames, and prevents propolizing the outer sides of the uprights or ends. Closed-end frames surrounded by a bee-space, as contained in a solid casing or hive-body, have two objections which can not be overcome—the propolizing, which renders them difficult to separate, and the bee-space filled with bees, which interferes with rapid manipulation of the frames. This last objection also applies to ordinary hanging frames.

Without exaggeration, I believe that Aspinwall frames can be handled at least three times faster than any other style or make, which would be impossible unless contained in a rack to hold the comb-frames, thus avoiding the propolis and bees which would otherwise interfere.

A still more important feature is the prevention of an excessively high temperature during the oppressive heat of summer. But some one will raise a question as to the effect of cool nights. Upon examination we will find all colonies in closed bodies employing an excessively large force of workers both night and day in the work of ventilation. With Aspinwall hives but a small force is requisite during the day, while at night we hear but little more than the hum of contentment, unless the weather be exceptionally warm. Inasmuch as heat is one factor which induces swarming, its control must constitute a part of the non-swarmers. After having experimented with these hives so many years, I can not but realize the great disadvantage bees are compelled to labor under in ordinary hives, both in respect to overcoming the heat of summer and the crowded condition; yet many are trying to control swarming when the principal factor which induces swarming (a crowded hive) is not taken into consideration.

Let us now consider the relation of the cluster in reference to a thoroughly ventilated hive as contrasted with one having little or no provision for the comfort of the colony in this respect. Upon the technical observance of this feature in hive construction—namely, open hive-bodies and brood-frames with slatted ends, used in combination, we practically obtain a square, which, aside from the spherical, most economically conserves the warmth of the colony when separated by slatted frames. The writer can not forget the years of failure by attempting to use them with those of Langstroth length. So subtle are the combined forces which constitute successful inventions, we can not afford to overlook even those of the least importance; and in proportion as we follow the unerring laws of nature in this respect do we obtain success.

Having combined brood-frames with slatted ends for ventilation and distribution of the bees, also slatted frames alternating them, we obtain a uniform distribution of both bees and temperature laterally throughout the hive.

By adding a super we approximate a cubical form, which is also in accordance with the diffusion of warmth, and by tiering we practically obtain a cube, which, for conserving the warmth of the colony in the storage of honey, can not be equaled. The generating of heat in the lower story or brood-apartment of the hive and its ascendancy through wide passageways afforded by the slatted frames, is a feature which will preclude the use of two stories of ordinary hive-bodies and slatted frames. The ordinary Langstroth or Hoffman frames are too short to afford ample supering surface—five square sections in a holder being requisite to the best results and to avoid excessive tiering.

Bee-keepers are cognizant of the fact that deep frames are not well adapted to storage of comb honey, much less two hive-bodies with slatted frames separating the combs and reducing the crowded condition of the colony. With such an arrangement, filling the brood-combs of the upper hive-body with honey in lieu of continued brood-rearing would be a natural result, especially as the queen is not likely to pass from a lower to an upper story unless by pressure of a crowded hive.

One valuable feature of the Aspinwall hive is the absolute freedom from brood in the supers, although no queen-excluding zinc is used. In hive construction the cost of frames is regarded as a small item; so that, in utilizing those of various makes to obtain a non-swarmers, no saving would result, as all parts required, aside from the frames, must be new. Inasmuch as the present style of hive-bodies made sufficiently large for a non-swarmers would cost as much as or more than the Aspinwall, there would be nothing utilized but twenty-five or thirty cents' worth of frames poorly adapted to the making of a non-swarmers.

In view of the numerous difficulties which must be surmounted in perfecting an invention, it behooves us to retain every feature which is requisite to perfect success. Therefore, let us transfer good clean combs from the Langstroth and Hoffman frames to those provided with slatted ends. These improved frames can be handled with great ease and rapidity, which is essential in this age of high-tension bee-keeping.

Jackson, Mich.

EQUIPMENT FOR EXTRACTING HONEY.

The McIntyre Uncapping-box; the Arrangement of the Furniture in the Honey-house.

BY E. D. TOWNSEND.

At our honey-houses at the extracting-yards we have a four-frame automatic extractor, a McIntyre uncapping-box, a honey-tank provided with a strainer and a gate at the bottom, and platform scales with an electric bell attached to give warning when a can is full. Since we put in cans all

of our honey as fast as it is extracted, we have on hand also a stock of 60-pound cans. Minor tools are necessary, such as uncapping-knives, pails, wash-dishes, towels, etc.

Our extractors are the automatic four-frame machines, none older than the 1907 model. We disposed of all our small extractors, and also of the old four-frame Cowan machines, for we wished to have nothing but the most up-to-date tools to work with.

Our McIntyre uncapping-box is made of galvanized steel, and is 4 ft. long, 2 ft. high, 2 ft. wide, as shown in the engraving. The slatted framework at the bottom is made a little smaller than the can so that it may be easily removed to be washed. As there is only a 1½-inch space under this frame for honey storage, we leave the gate open all the time so that nearly all of the room in the tank is available for the storage of cappings, as it should be.

The engraving does not show the frame at the top correctly, for the long side-pieces should be close enough together so that the frames can hang between them as though they were in the hives. After the honey is extracted, the combs may be placed back in this rack; but the principal value of the arrangement consists in providing a place where the *uncapped* combs may be hung to drip before they are extracted, for in this way no extra apparatus is needed.

The two short pieces of the framework at the top should be nailed on the bottom of the long side-pieces about 1¼ inches from either end. It can be seen that, when the long side-pieces rest on top of the tank, the short cross-pieces fit just inside, keeping the framework from sliding either way, and yet allowing it to be easily removed

when the cappings are taken out. The metal pieces containing nail-points can be tacked on in any position to suit the convenience of the operator.

We have used many different designs of uncapping-boxes, but none seem to me quite so convenient as this McIntyre box. It will hold all of the cappings from one extracting in a yard of ordinary size. We use a six-tined short-handled fork for handling the cappings, and each morning the dry cappings from the day before are pitched up toward one end of the tank, and in this way the honey from the new cappings does not have to drain through the dry ones over and over again as it would if we were to uncap on top of the cappings left from the day before. In one instance we had more cappings than we could keep in the tank, and a sugar-barrel with a perforated bottom was set over a galvanized steel washtub, and the dry cappings pitched into it. In this way the capacity of the tank may be said to be unlimited. The advantage of the large area of the bottom is that the honey drains out of the cappings much better if they are spread out in a thin layer than it could in a deep tank where the bottom is comparatively small.

The cost of the tank alone is about \$4.00, the freight making it perhaps \$5.00. We use the Perfection 1½-inch gate, which costs 75 cts. If the woodwork should cost \$2.00, the entire expense of the tank complete would be about \$7.75, and we think we have a much better and cheaper arrangement than a wooden box.

The honey as it comes from the extractor is drawn off into a 14-quart pail. We never make the mistake of leaving the extractor-gate open all of the time, for it is too easy to forget and allow the pail to run over, making a big mess on the floor. In order to avoid this waste of honey we at one time went to the expense of having shallow pans made to catch the overflow in case we forgot. We now allow the pail to remain inverted over the strainer until the reel of the extractor begins to "swim" in the honey in the bottom of the extractor. We then draw off a pail of honey without letting go of the gate; for when the honey is warm it does not take one-fourth of a minute to fill the pail through the large gate, and there is no risk of running the pail over. There is also the advantage that the pail may be draining during the time when another pailful is being extracted.

The strainer tank is of galvanized steel, and holds 15 or 20 gallons of honey. A heavy wire selvage is put around the top to stiffen it; and as this wire is on the outside it is easy to fasten on the cheese-cloth strainer,

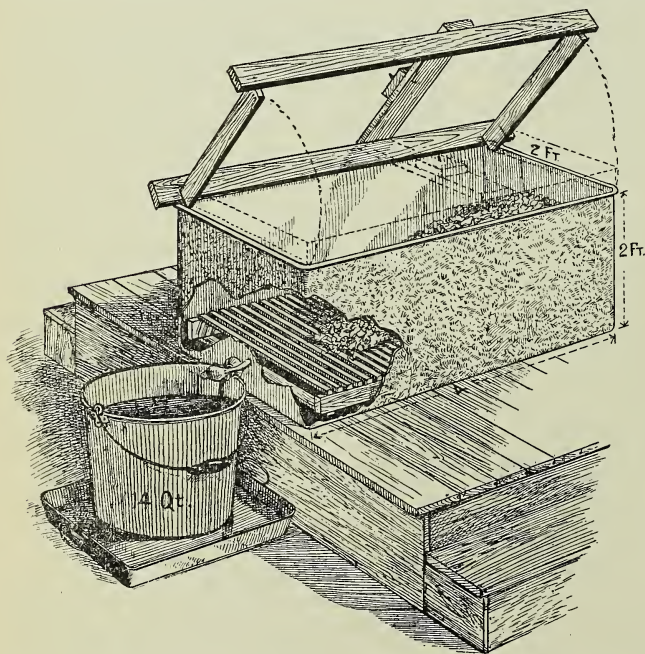


FIG. 1.—THE MCINTYRE UNCAPPING-BOX AS USED BY E. D. TOWNSEND.

which is held in place with a small rope drawn tight by being twisted with a stick. This cloth strainer must, of course, be fastened very firmly or it will go down into the can when a pail of honey is emptied on to it. At the bottom of the strainer-tank is a 1½-inch Perfection gate through which the honey always runs in a round stream which is just right for filling the 60-pound screw-cap cans. Most of the other gates throw the stream to one side during the time they are being opened or closed, and some of the honey is, therefore, daubed over the side of the can. All this is avoided by using the Perfection gate, which throws a round stream, no matter how wide it is opened.

The strainer-can is elevated in order to run the honey from the gate into a 60-pound can set on the scales. The gate is open all the time except when the cans are changed. An electrical alarm, as first described by Mr. Hutchinson, is used to give us warning when the can is full—see Fig. 2. No one should hesitate about trying one of these alarms, for they are very simple. The engraving shows the method of connecting the bell to the battery. In brief, two wires run from the two posts on the battery to the two posts on the bell; but one wire is broken, one of the ends being fastened to the scale-beam at the pivot, and the other being located just above the outside end of the beam. It can be seen that, when the can is full, the scale-beam rises and the circuit is completed so that the bell rings. It is necessary to have all of the connections tight, as the bell may fail to ring if there are any loose contacts. We set the scales as usual at the 62½-pound mark to allow for the 60 pounds of honey and the weight of the can, and then lay a two-pound weight on top of the can and turn on the honey and go on with our work. It can be seen that, when the scale-beam goes up and rings the bell, there will be 58 pounds of honey in the can. We then remove the weight and weigh the honey as usual.

Mr. E. E. Coveyou, of Petoskey, Mich., has made an automatic scale that closes the gate when the can is full. He uses an eight-frame automatic extractor provided with a Holtermann strainer in the bottom. This extractor is located on the platform about 2 ft. above the honey-house floor, and a rubber hose from the strainer in the extractor conveys the honey to the gate on the scales. This rubber hose stops all the vibrations

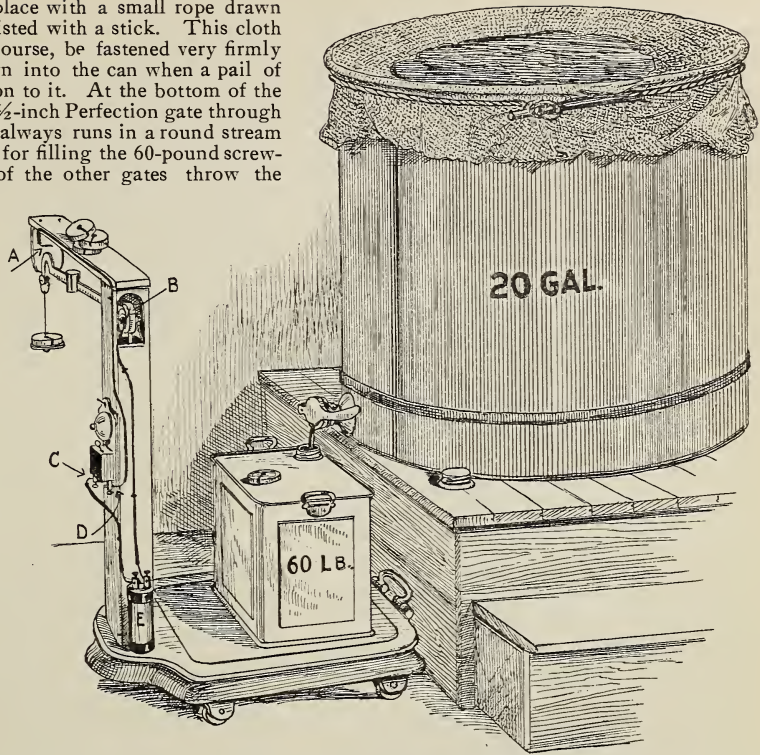


FIG. 2.—E. D. TOWNSEND'S ARRANGEMENT OF STRAINER AND SCALES, ILLUSTRATING THE HUTCHINSON AUTOMATIC ALARM.

caused by the running of the extractor, and this precaution is really necessary; for if the automatic scales were fastened solid with the extractor the vibration would so affect the flow of honey that some of it would not go into the small openings in the 60-pound cans.

Remus, Mich.

[Mr. Hutchinson will soon describe the Coveyou automatic scale in these columns.—Ed.]

THE TROUBLES OF AN AMATEUR BEE-KEEPER.

Failure through Success.

BY F. DUNDAS TODD.

Bees not troublesome? May be not; but you could not prove the fact on the witness-stand by me. My neighbors learned of my trouble, and came to give me sympathy, but I did not want it. I told them I was delighted with things as they were. I really was, but they could not understand. I had a problem to solve, which was something far more fascinating than robbing a hive of fifty pounds of honey at the end of a smooth-flowing season. So I begged to be left alone with my entrancing troubles, and turned more assiduously than ever to the books. I bought

all I came across, subscribed for three magazines, and put all my spare minutes on the ever growing problem of bees.

Then I bought another hive, being determined to have a first-class one as a standard of comparison. It came from Flint, and I know now that Mr. Hutchinson sent me a dandy. I wondered how so many bees could find room in so little space.

My first went from bad to worse, and at last a happy idea struck me. The wonder is, it did not strike me before. As editor of a technical journal I had to answer daily over a dozen letters from people who were in trouble, and so I decided to call on Mr. York and state my case for his opinion. He was kindness itself, and at the outset doubted my diagnosis of bee paralysis. Nay, more; he volunteered to examine the hive, diagnose the disease, and prescribe the remedy. He made short work by pronouncing it a case of queenlessness, with at least one laying worker. Remedy, total extinction. I pictured the sulphur-chamber; but, no; he advised placing it above my other hive with a sheet of ordinary newspaper between, in the center of which was punched a small hole with an ordinary leadpencil as the readiest tool to be found. He went even further, and administered the medicine himself.

A rather amusing incident then happened—in fact, two of them. Mr. York looked over my new hive to see how it had stood the journey, and of course I wanted to see the queen, as I had never seen one. I remember he declined to put on gloves. I had had too sharp an experience with my first effort to be ever without them; in fact, the bees got at my fingers through the cotton lots of times until I oiled the part that covered my hands. That oiling experience was amusing because I soaked them so thoroughly that it took two weeks' exposure over a steam-boiler to dry them. The next time I applied sweet oil to bee-gloves I tried to see how little I could lay on them; but even that was a plenty. So I closely watched Mr. York's fingers as he handled the frames, and I must admit I chuckled when a sudden "ouch" broke from his lips as he sharply swung his left hand against his trowsers leg. It is not the same word I would have used, but I guess it meant about the same thing.

To return to the queen-hunt. The first overhaul was fruitless; the second, the same. Mr. York decided the task was hopeless, and made all preparations to close the hive. I happened to step behind him and look downward, when my eye caught sight of a large yellow bee just above the calf of his leg. I quietly mentioned the fact to him, so he gently looked round and pronounced that I had found the queen, which he speedily returned to the frames, in which she disappeared. My acquaintanceship with Mr. York had been very short, but I had at one time lived several years in his "locality," and knew that he bore a very excellent reputation, so did not insist that he was trying leg-bail tricks with my only queen.

In less than a week my double and now only hive had a lot of finely chewed paper lying around its entrance; and when the upper hive was lifted I found the paper entirely gone, and evidence that the bees from the lower half had taken full possession. A few weeks more this hive was simply full of bees; and since white clover came in bloom

I decided to dodge swarming by dividing my hive. I had never in my life seen a swarm of bees, and I never wanted to. My friend who had kept bees as a boy had suffered a relapse of bee-fever, and bought a hive from Mr. Hutchinson when I got my second. Being a practical man he despised books, and told me I was simply wasting time, as the only way to learn bee-keeping was by experience. Then the theorist got on his nerve and proposed a competition, the test to be selected by the practical man. He said honey, and honey it would be.

So to the books and magazines I went more assiduously than ever. I had one Dovetailed and one Danzenbaker hive, so I had to decide which I would adopt, and I studied the pros and cons. The decision was in favor of the latter on purely theoretical grounds, and so two more were got. I ordered a couple of queens, and on their arrival I drew ten frames from my double-decker and placed five in each, alternating with empty frames, then introduced the queens, which were accepted. Transferring seemed a big problem, but it had to be done if uniformity of appliances were to be secured, so this was tackled and successfully accomplished.

The season of 1906 in Illinois was a poor one, as every one knows, and I waited expectantly long weeks to see what a honey-flow looked like. White clover bloomed June 1, but the bees did not develop that tremendous energy I had read about but had never seen. My practical friend was longing for a swarm, and in picturesque language he described the delirium of the bees as they rushed pellmell out into the wide, wide world to seek a new home. To him at that moment the whole pleasure of bee-keeping seemed to consist of one huge swarm of absconding bees, with him racing after them in wild pursuit. I am too lazy for that kind of excitement, and prefer expansion under control.

Sweet clover bloomed July 1, and by the middle of the month I was able to provide a lawn party of a dozen at my house with six complete sections, purity guaranteed, and believed, since they saw the honey taken from the super.

August 15 the honey-flow was over, and my first venture in bee-keeping stood thus: 30 fine sections of honey from hive No. 1; one new hive had finished its combs and built up in good shape; another new one, in fair shape, but not nearly so good as the other.

My friendly rival had all the fun he wanted racing after three swarms, climbing as many trees, and learning by experience that what was fun at fifteen is a nuisance at forty-five. But he got no honey. Need I say how I would occasionally call him up on the phone, and in my blandest tones tell him I had a rather curious substance called honey at my house; and, if he cared to see it, just to come over. Or I would ask him very politely if anybody had ever told him what bees were kept for; if he did not know I could tell him—it was to get honey. Twice I sent a section to his wife, with my compliments, and he handed me the cigars when we met.

The theorist had beaten the practical man. The Danzenbaker hive had won a victory over the Dovetailed.

Medford, Oregon.

To be continued.

HEADS OF GRAIN

FROM DIFFERENT FIELDS

HERSHISER'S SCHEME OF SPRING MANAGEMENT INDORSED; THE EGG-LAYING POWER OF A QUEEN THAT HAS BEEN CONFINED IN A WEAK NUCLEUS.

After reading the article by Mr. Hershiser on page 347, I wish I could get every bee-keeper to read it twice. If any one is in doubt about a fresh queen being able to lay all the eggs an average colony can take care of, let him try a queen that has been held in check by a weak colony until about fruit-bloom time, and then give her all the conditions favorable to brood-rearing, and notice the results. I doubt if they will think it necessary to have two queens to the hive.

It is not so much the queen that gives results as the conditions by which she is surrounded; yet there is a vast difference in favor of a fresh queen as compared with one that has, as it were, laid out her litter and is approaching the time of her usual summer vacation.

Giving eggs and young brood to a strong colony will retard swarming, even if you do not take any of their mature brood from them; yet there is nothing that will boom brood-rearing in a weak colony like giving them a frame of hatching brood; but if you want to go them one better, give at the same time one of the combs just outside the brood-nest in the strong colony that contains no eggs, but is filled with raw nectar and newly gathered pollen. This, of course, is to be placed next to the brood in the weak colony, never between the combs of brood.

So. Cabot, Vt.

D. S. HALL.

DIFFERENT SHAPES AND SIZES OF FOUNDATION STARTERS.

I was much interested in Mr. W. A. Pryal's article in the Dec. 15th issue, on the subject of bottom starters, as I have been experimenting with them somewhat the past season. I had about the same luck with them that he did, except in one colony which I experimented on by putting foundation in the sections in several different ways—top starter, full sheet, top and bottom starters. There were even a few in which I did not put foundation. The sections were all filled up full, and you could scarcely tell one section from another. In fact, the honey would grade No. 1. The bees in this particular colony are the best to work in sections of any that I have ever had, and they did not offer to swarm at all the past season. The queen of this colony is a daughter of an untested red-clover queen. The bees are as gentle to handle as any one could wish.

EDW. A. REDDOUT.

Baldwinsville, N. Y.

SOME OF THE IMPORTANT POLLEN AND HONEY PRODUCING PLANTS OF THE CANADIAN NORTHWEST.

The first bloom we have here in the spring is from the pussy-willow. It grows very plentifully along rivers and creeks in the Canadian Northwest, and is a great pollen-producer. At about the same time we have the box-elder, or ash-leav-

ed maple, and the prairie crocus, both important for pollen. A little later the wild cherries, currants, and wild roses come in bloom, and still later, about the beginning of July, the willow-herb and wild vetch come. Much honey is obtained from the willow-herb, or fireweed. Last of all come the wild aster and the goldenrod. A considerable amount of honey is taken from goldenrod some years. All these grow in the wooded districts except the crocus.

Swarthmore, Sask.

EDWIN J. HOPE.

MEETING OF PENNSYLVANIA BEE-KEEPERS.

The Lebanon Bee-keepers' Association held its regular spring meeting at the apiary of Messrs. H. K. Beard & Brother, near White Oak Station, on Saturday afternoon, May 2. President Miller, of Myerstown, occupied the chair. About seventy-five bee-keepers were present, and all enjoyed the different addresses and took part in asking and answering questions.

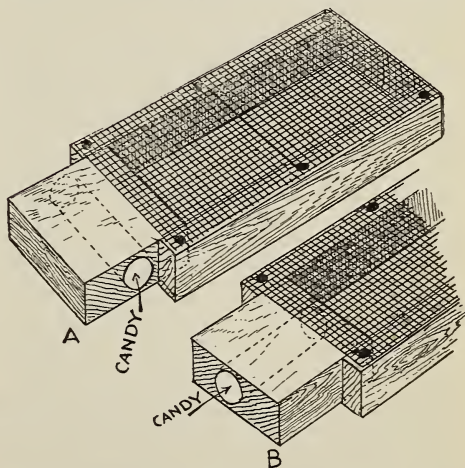
The question-box was a feature of the meeting, and there were all sorts of questions, interesting and instructive. Many different views and methods were thus brought to light. This will also be a feature of the July meeting, and all bee-keepers who want questions answered should make it a point to have them in the hands of the secretary by July 1, so as to give ample time to procure speakers who will answer them intelligently.

C. F. KLEES, Sec.

Annville, Pa.

NEW STYLE OF MILLER INTRODUCING-CAGE.

I am sending you a style of Miller introducing-cage upon which I should like to have your opinion. You will notice the plug can be inserted either way. One way covers the candy so that



neither bees nor queen can gain access to it, while the other way leaves it free for the bees to work on.

CHAS. G. MACKLIN.

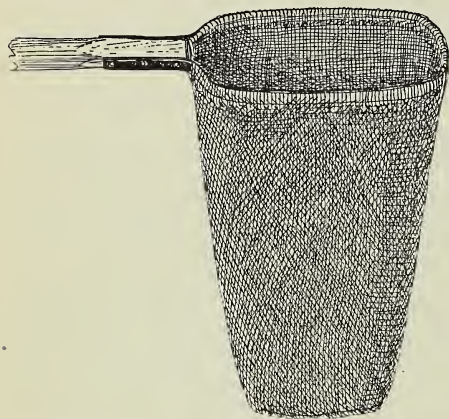
Morrison, Ill.

[There are some features about this cage that are very good; but if the cage is made small enough to go down between the combs the hole in the block will be very small—probably too small for the queen to pass through safely with-

out danger of being stuck fast by the candy adhering to the inner wall of the hole.—ED.]

A SWARM-CATCHER MADE OF A BURLAP SACK.

Take a good strong iron barrel-hoop. Sew a good fertilizer-sack to the hoop, then squeeze the latter to an oval shape; put in a handle, any



length you wish. When you shake the bees in, give half a turn. That closes the sack, and not a bee can escape; then dump in front of the hive.

Tontogany, Ohio. R. L. MCCOLLEY.

[The same general plan of a swarm-catching sack was shown in the earlier editions of our A B C of Bee Culture, and, in fact, is still shown there. See page 410 of the last edition. The device is so simple that any one can make it.—ED.]

BEEES AND HONEY IN UTAH.

I started in last spring with five hives. From these I captured seven swarms. One of the five, and also one of the swarms, failed to make even a pound of surplus, on account of foul brood; but from the other four and their swarm I got 924 lbs. of nice comb honey, the most being made by swarm No. 7, which was cast May 27, which made 177 lbs. The next best was 151 by swarm No. 8. One of the original five swarmed four times; and at the end of the season I had 113 lbs. of surplus to its credit. I called it my crazy hive, but there seemed to be "method in its madness," after all.

Last Sunday, as Mrs. Tidd and I were returning from the Easter service at Provo, we drove right up into a mammoth swarm of bees as we reached the house. We were not looking for a swarm quite so early in the season, but had hives ready in the event any should come. They settled on the ground in our little pasture at the roots of some cherry-sprouts. I soon had a hive there, but was having some trouble getting them started to go in when Mrs. Tidd said, "Why, there is *another* swarm."

I looked, and there, about two rods away, on a weed about a foot high, was another cluster. As my bees were all leaving, and clustering there too, I concluded that the queen must be there, and so I moved the hive over to Mrs. Tidd's

cluster, and soon had them hived nicely, and saw the queen as she went in. I want to say right here that Mrs. Tidd is a great help to me in the apiary, and the outdoor exercise is excellent for her.

I bought a few more stands this spring, and now have 16 including the Easter swarm. It is doing beautifully so far. Fruit-trees are all in bloom now.

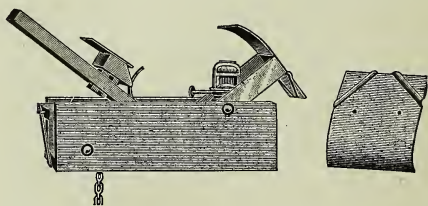
C. H. TIDD.

Provo, Utah, April 22.

P. S.—Our Homes department, conducted by you, deserves special mention, and I hope you may be abundantly successful in your work of reformation.

THE DEWEY FOUNDATION-FASTENING MACHINE.

There are now on the market a number of devices for fastening starters, employing a hot-plate; but while all have their merits the principle of the flat plate is subject to serious objection. My device is a coverless box with a sliding table. The chain is secured to a small lever clip which forces the moving table forward when pressure is applied to the treadle. As the table slides forward or away from the operator the curved plate swings forward toward the operator. The section is held in position by the curved spring. As the machine is closed the heater-plate describes an arc, passing over and into the section, and coming to rest just below the stationary plate. It is this position of the hot plate that makes this device so distinctive. It does not touch the section at any point. Neither does it come in contact with any part of the machine adjacent to the section, but is suspended free from any thing that could be soiled. When the section has been adjusted and the machine closed, the starter is slid down the small plate until it touches the hot plate; the pressure on the treadle is then released; and as the hot plate recedes from



the section the starter is pushed down until it touches the section, to which it is securely and centrally fastened. All dripping wax is carried away from the section to the rear of the hot plate, and may be collected in a dish placed at the rear if desired.

Starters are fastened so securely that the wax will tear before they will start from the section. Full sheets or $\frac{1}{4}$ -inch starters are fastened with equal ease. Many have reported a speed of 500 starters per hour, and 600 per hour has been reported.

Aside from its many other desirable features, no soot can soil the section or dripping wax clog the machine. The small kerosene-oil lamp, using a no-chimney burner, produces an intensely hot flame with nearly complete combustion.

Great Barrington, Mass. D. H. DEWEY.

OUR HOMES

By A. I. Root

Give, and it shall be given unto you; good measure, pressed down and shaken together, and running over, shall men give into your bosom. For with the same measure that ye mete withal, it shall be measured to you again.—LUKE 6:38.

Great peace have they which love thy law, and nothing shall offend them.—PSALM 119:165.

Dear friends, I have used the above texts several times, especially the first one, and it pains me to find out that a good many do not take it as I meant it. This is especially the case when I recently spoke of the labor troubles, and declared that the gospel of Jesus Christ would be a perfect and unerring remedy. Of course, I meant that this gospel should apply to the wealthy employer as well as to the day laborer—in fact, to all humanity, high and low, rich and poor, white and black. May the Holy Spirit guide me, and so direct me that I shall be able this June morning to make my meaning plain.

Many good people seem to be *afraid* to be liberal and generous, and I fear that some of us are, at least at times, afraid to be *honest*. A good friend of mine (and a *money-lender*) used to say, many years ago, that when a man does all he *agrees* to do he is a pretty good man, and that is true. Oh what a blessing it would be if all the people we meet were always ready and willing to do *all* they agree—our transportation companies, for instance, and particularly our express companies. I once expressed a part of a bicycle from Cleveland to Chicago. I paid the charges in advance, and got a receipt saying, "Paid through to destination." But when I called at the express office in Chicago there was something more to pay. I produced my receipt, and told the clerk that I had it in black and white, paid through to destination. "I do not care any thing about your receipt," he said, "nor what you paid in Cleveland. You can not have this property unless you pay these charges." As the amount was small I did not quarrel about it; but, even though I am a man of peace I have since felt sorry I did not take the matter up with the company and make them fix it—not because of the amount of money involved, but because of the principle and the precedent it helped to establish. But I am not going to talk about express companies just now.

Some years ago in the poultry department in this journal there was an advertisement that did not look just right. I investigated, and found it came from the editor of a poultry journal published in ———, Ohio. Now, notwithstanding he was the editor and proprietor of a *poultry journal*, he was trying to sell a recipe for preserving eggs for several dollars, and that, too, to his subscribers. Let us look at it a minute. We have periodicals and journals representing almost every industry nowadays. The proprietors are leaving no stones unturned to get people to subscribe; and, whether they say so or not in plain black and white, they are supposed to be giving their readers promptly, each month, every new discovery or invention that will be of value to the poultry-keeper. In fact, that is the mission of every class journal.

Well, now, this man in his circular for pre-

serving eggs *admits* that he has some valuable secrets that he is holding back from his readers. If you will just send him the "dollars" he is begging for he will let you "into" *something wonderful*. I am sorry I did not save the circular; but if it did not say it would preserve the eggs so perfectly for a whole year that they would then hatch out good chickens, it came pretty near it. We refused to give his advertisement another insertion, and dropped the matter there.

For years this business of selling recipes for preserving eggs has been going on. We get a circular every few days, even yet, although our experiment stations have again and again explained the whole matter, and the Department at Washington has sent out a bulletin giving all the information obtainable in regard to it from an unbiased source. I might say briefly that the soluble glass seems to be equal if not superior to any thing known.

Just now all or nearly all of our poultry journals give place to advertising secrets. The Hogan system and the Potter system are still offered for from one to ten dollars, and the editor of one poultry journal defends the business of advertising secrets, and ends up by saying it is everybody's privilege to let them alone if they do not want them. Some of our foreign journals editorially *advise* their readers to pay ten dollars for the Hogan secret. Now, the editor of any industrial journal can, if he has energy and enterprise, get hold of all information of this kind, and do it, too, in an honest and gentlemanly way. If he chooses he can *buy* the secret and give it to his readers free, or he can get the experiment stations throughout our land to assist him in giving people every thing that is of value to them. Our different experiment stations have as a unit declared over and over again that nothing of value is *ever* peddled out in the way of secrets. Let me give you an illustration. Suppose your neighbor's potatoes are being eaten up by potato-bugs, and that his patch will be ruined before night. We will suppose he is new in the business, and does not know what to do nor how to do it; and suppose you have just bought the secret, for which you paid one or even five dollars, as the case may be; but when he comes to you in his distress you tell him, "I would let you have my recipe, friend A., in a minute; but I have signed a contract not to divulge nor to let anybody 'look into the book' containing the directions. If it were not for that contract, with my name to it in black and white, I would help you out of your trouble straightway; but as it is, I do not see but you will have to let your potatoes all go. You see I am tied up and helpless."

May be I have put the above a little too strongly, but I think not. I once remonstrated with a young physician because he refused to tell his patients what the medicine was he was giving them. He turned on me with scorn, saying something as follows:

"Do you think I am going to give away my secrets that I have learned by long study and much experience? Not much! Shall I tell the people what I use to cure them so they can go to the drugstore and buy their own medicine without consulting me? Not if I know it."

I have never heard of that young doctor since. In fact, I doubt if he *is* a doctor at all by this

time. When I call a physician I always tell him plainly at the outset that I very much prefer to have advice rather than medicine—that is, if no medicine is *really* needed; and when he tells me it is something I need not be at all worried about I sometimes have to urge him to take pay simply for giving me the benefit of his advice and experience.

Now, in every thing I have to say, dear friends, please remember that I may be mistaken and in the wrong. Please keep in mind that I am simply making suggestions to you and giving you *my* point of view and observation. Now, when I give you a little of my experience of years past, please do not think I am boasting. It is the Lord Jesus Christ I want to hold up and not poor faulty A. I. Root. When I began reading my Bible, something over thirty years ago, I turned right square about in a good many things; and that beautiful text, "Give, and it shall be given unto you," helped me greatly in turning right square about. I had at that time no patent on my all-metal honey-extractor; and my impression is now that if nine-tenths of all the patents had never been taken out or granted, the world would be just as well off. I have no doubt our older readers will remember that when GLEANINGS was started I commenced ransacking the face of the whole earth, if you will excuse the expression, in order to get hold of every thing that was valuable to bee-keepers; and then I sat up nights (and set type myself at times) to get these valuable facts before our readers just as soon as possible. When I had worked out a better plan for sending queens by mail I sent a special circular free of charge to all the friends who were mailing queens. If anybody advertised any *secrets* in bee-keeping, making artificial honey, etc., I sent the money and gave you the secret free of charge.

There is another text along the same line from the same chapter from which my first one comes. It says, "Do good and lend, hoping for nothing again; and your reward shall be great, and ye shall be called the children of the Highest." Why, is not that promise just glorious? I never fully realized it until *just this minute* as my eye alighted on it in the open Bible that lies before me as I dictate. Jesus not only says our reward shall be great but that we shall be the children of the Highest—*God's* children.

Well, if I am correct I made the first all-metal honey-extractor, toward forty years ago. I told you all about it in the old *American Bee Journal*. Although I might have patented several features of it, I took out no patents. Just about this time some visitors from Toledo, O., came to see us. One of them asked a good many questions about my new extractor; and he even took out his rule and made measurements of different parts of it and put it down in a notebook. I supposed he was thinking of making one for his own use, and said nothing about it, and thought but little about it until a few weeks later, when an advertisement appeared in the *American Bee Journal* that read something as follows:

"Honey-extractors made just like A. I. Root's, but \$1.00 cheaper than the Root extractors."

Of course, I felt a little hurt at this, but concluded to say nothing. A little later my good friend Prof. Cook got out his first edition of the *Bee-keepers' Manual*, and I felt still more hurt

to see that he had pictured *this* extractor (copied from mine) with the manufacturer's name on the printed picture. I did not lower my price on account of the advertisement; but I tried hard to make a *better* machine than I had been making for the same money. Some of the veterans will remember this first frail machine, and the amount of work it did was really remarkable at that stage of proceedings.

Now, friends, we are about ready for the second text. I first got hold of it at a union revival meeting here in Medina. Somebody got up in meeting and said in a voice that startled us all, "Great peace have they that love thy law, and nothing shall offend them." Whenever I feel hurt I try to remember about the "great peace"—that it is your privilege and mine to have it; and then I try again not to be *offended*, no matter what may happen or come up. Oh what a bright and happy world this would be if people would not take *offense* too easily! When we get to the stage (or *age*) where we shall not take offense, no matter what shall happen, we are getting pretty close to heaven.

Some time ago I criticised somewhat the *Woman's National Daily*; but now it is getting to be not only right on the side of the *temperance* war, but it gives me some happy surprises in regard to other things. In a recent issue there is an editorial headed "Revolverless Robbery." A trolley car in Philadelphia was held up and robbed, and the robbers went right through without hindrance because there was not a revolver in the whole crowd—not even in the hands of the conductor. The editor rejoices over this fact; and I want to add, "May God be praised that Philadelphia had at least *one* carload of people without a revolver." It is intimated that the robbers themselves did not even show a revolver; and Editor Lewis thinks it was a great deal better than to have a fusillade of bullets that would be more likely to injure innocent people than to kill the robbers, as happened in the following case, which I quote from the very same paper.

FIVE SHOT IN MAN-HUNT.

SERGEANT, KY., May 27.—Officers of the county have been on a man-hunt in the Blackberry Creek region near here. Their special object was to capture Sam and Thomas Followay, wanted for lawlessness, and believed to be trying to escape across the Virginia line. In a Hungarian settlement where it was thought the two men were concealed, there was a general shooting-scape, and five of the Hungarians were shot. Two of them were women, and their wounds are mortal.

It is the old story of Nimble Dick, who not only failed to hit the obnoxious crow but destroyed a valuable cat sitting in the window.*

Well, while I give a hearty amen to that part of it, I *do* think the police of that great city should leave no stone unturned in order to get hold of those highwaymen. And let me suggest that the first and foremost "stone" to be rolled over would be to get rid of the saloons that curse not only Philadelphia but every other great city in our land.

*As some of the children may never have heard about "Nimble Dick" I have asked our stenographer to give you a verse that sent my memory back fifty years or more as soon as he suggested the application of the moral to the shooting of five persons.

Nimble Dick, he was so quick
He tumbled over a stick of timber;
He bent his bow to shoot a crow,
And killed a cat in the window.

I have just one other illustration to give you; and I have been thinking that perhaps I *may be* a little more out of the way than the good friend whom I am going to criticise just a little. When I heard that beautiful hymn for the first time in St. Louis, "The King's Business," I spoke of it in these Home papers, and I said the most I could remember of it was the closing words, "Be ye reconciled to God." Just as soon as that journal had gone out, somebody tore a leaf out of his hymn-book and mailed it to me, giving the words and music. I mentioned it in GLEANINGS, and promised to give our readers the words and hymn. After I got the electrotype plate of it, however, Mr. Calvert called my attention to the fact that it was copyrighted, and that I could not print it in GLEANINGS, nor even have copies printed for use in mission Sunday-schools in Michigan and Florida and other places, without permission. I accordingly wrote to the owner of the copyright. I also inclosed some copies of other hymns, words only, that I had been using in Sunday-schools so the pupils and all could sing the new pieces as they came out, even if they did not have the books. Below is his reply:

Dear Mr. Root:—I am very glad indeed that you discovered that "The King's Business" was copyrighted, for under no conditions do I allow anybody to reproduce the hymn. It is too valuable a copyright; and, while you might think it would be a good advertisement to send free copies out, at the same time I prefer to advertise in another way, so you will please not distribute any copies of the song as per your reproduction.

Chicago, Ill., July 13, 1907.

E. O. EXCELL.

Of course, I felt a little hurt, but let the matter drop. Some time afterward, however, it occurred to me that friend Excell would probably have no objection to my using the *words* only without the music, and I wrote him, telling him I wanted to use the leaves to distribute to poor children who had no money to buy books. Below is his reply to that:

Dear Mr. Root:—I have yours of the 27th. Replying I will say I am not in the habit of allowing my copyrighted hymns to be printed words only. The fact is, it might vitiate the copyright, inasmuch as my songs are all copyrighted, words and music. You ought to be very careful in printing Sunday-school songs words only, for fear that you print some copyrighted hymns and thereby throw yourself liable. There is a fine of \$1.00 for each copy so printed. I am sorry I am not in a position to accommodate you this time.

Chicago, Ill., Aug. 30, 1907.

E. O. EXCELL.

Now, I shall have to confess that it seemed to me a little severe that a great Christian worker, whose fame extends all over the world, should object to letting these beautiful hymns revive and gladden the Sunday-schools of our land,* but that other text, about "great peace" and not being "offended," brightened me up again. And then I remembered that friend Excell might have said, in defense of his course, that the very hymn I wanted, with a dozen others, including the celebrated "Glory Song," were published in pamphlet form for just the purpose I needed, at the exceedingly low price of \$2.00 a hundred; and that if these poor children could not afford two cents

*When I was tempted to feel hurt at the position friend Excell takes, it looked to me something like this: The hymn supposes an ambassador has been sent from the King of kings—

"An ambassador to be
Of realms beyond the sea;"

and this ambassador has a message from the King; in fact, the chorus reads:

"This is the message that I bring—

A message angels fane would sing."

Well, this "message" the "ambassador" brings, I should have given you all had not brother Excell objected.

for a copy the superintendent and officers of the school could easily raise the sum needed.

It is my privilege, without question, to give *my* time and money and inventions to the world without charge; but I should certainly be out of place, and a very poor Christian, if I should say that *all* inventions should be given to the world without the protection of any patent. Friend Lewis says in that editorial I alluded to that the world would be very much better off without revolvers, or perhaps without so *many* revolvers. He says, "A few drinks and a ready revolver is a combination that has sent many a man and woman too to an untimely death, and many more to the gallows, and prisons for life, or for a long time."

Well, in looking back over the years, and especially in getting the Patent Office Reports, as we do regularly, I am forced to believe that not only could we get along with fewer *revolvers* but also with fewer *patents* and *patent rights*. The man who copied my extractor very soon stopped making honey-extractors, and for years nobody else went into the business—at least very much; for while I had no patents, my profits were so close there was not much temptation to try to "cut under" my prices. When foundation-rolls came out, there were half a dozen or more invented and as many patented; but although I never applied for any patent, I rested for security on making a machine at so low a price that nobody else would care to undertake it. In just a little while the trade gradually and peaceably settled down into our hands. We have had no trouble in litigation or in fighting rivals; and so with all or nearly all of our other improvements in bee-supplies; and over and over again, as the years have passed, have I seen money wasted in getting out patents, and perhaps more still wasted in fighting claims, when in a little time, had the owner of the invention waited, he would have seen something come up much better, or else found that the great busy world did not need his improvements, and that he would have been better off in dollars and cents, and still better off in having a good time in this world of ours had he followed that wonderful text, "Give, and it shall be given unto you;" and in a few years, or only a few months or weeks, he would have had reason to believe in the promise in the other part of the text, "Good measure, pressed down, shaken together, and running over."

A great part of the exhortation of our Lord and Master while here on earth was against selfishness. Over and over again he begged and entreated and *implored* humanity to forget self and to find happiness and enjoyment in laboring for the good of others. What a tremendous rebuke his pure and unselfish life is to the grafters of the present day! Just think of it, friends. We hunt the world over to find honest men—men who can be trusted with our public funds and our public business. Some good man, or one who is supposed to be so, is appointed as inspector of the fertilizers manufactured for the use of farmers. A great good has been accomplished along this line; but every little while some greedy manufacturer goes to this inspector and tries to buy him off; and they can afford to give him large sums of money if he will favor their particular brand, or persuade him to "look the other way"

while they are fleeing the farmers. When such a man is exposed he is put out of office, and perhaps sent to the penitentiary—that is, providing he and the manufacturers back of him have not enough ill-gotten gains to get him off scot free. Now, these men who succeed in tricking the government and the people are not happy. The money they have stolen does not do them any good. When they are exposed, as you will notice by the papers, they often commit suicide; and I maintain that such a course is only “jumping out of the frying-pan into the fire.” It may not be a *literal* fire, but I am persuaded it is something even *worse* than fire. Now, Jesus came from his home in heaven down to earth to bring us glad tidings—peace and happiness and enjoyment that God in his great mercy has provided for all of us; and he tells us to be liberal and to lend, hoping for nothing again. He tells to lay up treasure in heaven where it will not get away from us—to lay it where we can find it when we get to heaven. Naked and penniless we came into this world, and naked and penniless we shall go out of it. Oh! why do not men and women recognize that all this wealth and property and money that they are raking and scraping together may have to be given up in just a few hours?

I remember a friend who could not be happy; in fact, he could scarcely eat or sleep because he was likely to lose something like \$500 that *he* thought he ought to have, and some of his relatives did *not* think so; but after a lot of jangling and hard feeling he got the money. Did he buy something with it to make him happy? No, he just put it out at interest, and in a little while he died suddenly without ever having had any good at all from the \$500, and a great lot of money *besides*, that he had been spending his life's energies in piling up where it would bring in more.* Do you know of such people? Now, my dear friends, let us come a little closer home. Are you sure *you* are not one of that sort? If so, suppose you get down your Testament and read that sixth chapter of Luke that I have quoted from, and see how many other passages there are (that contain the precious words of God's only Son) that read something like our text—“Give, and it shall be given unto you, good measure, pressed down, and shaken together.”

POULTRY DEPARTMENT

HOW TO MAKE A HEN'S NEST.

Some of you may laugh at my title; in fact, I have heard there has been *considerable* laughing at my poultry talk, and *perhaps* at my poultry knowledge; and some people may wonder what there can be new about making hens' nests. Well, now, friends, there are a good many who do not know how to make a hen's nest, and I begin to think I belong in that crowd. In the last issue I spoke about sitting hens breaking their

eggs; but it did not occur to me that one great reason for sitting hens breaking their eggs is because they are not provided with proper nests. The eggs broken by sitting hens are costing this nation alone annually thousands of dollars; and if you will permit me to go so far as to “count chickens before they are hatched” (just this once, you know), I do not know but the loss will run up into the millions. I have been advocating giving the hens fifteen or twenty eggs; but a cousin of mine had a White Leghorn hen that stole her nest up in the hay-mow, and hatched *twenty-one* chickens all by herself. The chickens kept rattling down from the hay-mow until they thought there was no end to them. Well, now, this little hen successfully brought up the twenty-one chicks, and they were sold in the market at a good price. If a little White Leghorn hen can hatch twenty-one chickens, how many could a Light Brahma or some of the other big breeds hatch? You may suggest that these big breeds are the ones that break the eggs; but if I should be able to convince you that it is the fault of the *nest*, instead of the awkward and contrary hen, you would have to admit there is a great need—in fact, I might say, a “long-felt want” of a *better* hen's nest. Biddy breaks an egg, and in rolling them around, as she should do, about every egg in the nest gets more or less daubed, and this daubing cuts off the pure air from the baby chick. We are making a great ado about pure air nowadays, you know. Well, chickens even before they are hatched need pure air as much as they do after they are hatched. If you love the chickens, and even a contrary sitting hen, and keep due watch, you can wash off the eggs in hot water; and if it has not been on too long the chicks will hatch out all right. This breaking of the egg not only soils the other eggs and the mother hen, but it gets a whole lot of fowls into the habit of eating their eggs; and if they once get into that habit you may finally be obliged, in desperation, to get a sharp hatchet for a remedy. Somebody says that broken eggs and filthy nests harbor vermin. I have good reason to believe that many a severe attack of hen fever has resulted in a disgust and dislike for the whole chicken business just because of a little carelessness in the start in letting a hen break her eggs. Well, what is the remedy? It has been suggested to me by a good friend whose letter I append at the end of this talk. She says “plenty of litter.” But that is not all.

I have been watching sitting hens quite a little lately, and have finally succeeded in getting some pretty fair hatches. I confess I do not *know* how to make the very best kind of nest; but when I explain to our readers my conclusions they will, perhaps, tell me of something better than mine. First you want the right kind of box to hold the material. In the summer time I suppose a box without a bottom would be better; but as we often want to carry these nests around, hen and all, to some other place, I suggest that a bottom made of inch poultry-netting would be the right thing. This would let the fine litter sift through. Now, I would have the box about 15 inches wide and 30 long. Many of you will say this is too large, beyond all reason. Just wait a bit. If you have this poultry-netting for a bottom, chaff will not do. You want some soft straw—at least

* When I heard of this friend's sudden death I could not help thinking of Luke 12:20, where God says, “This night shall thy soul be required of thee. Then whose shall these things be which thou hast provided?”

I do not know of any thing better than that. The loose straw that has been trampled up so it is soft and loose will do very well. Perhaps clean oat straw that has been used for bedding would be about the thing. The hen will fix it herself better than you can do it for her. The nest ought to be shaped about like a wooden bowl—not so deep in the center that the eggs will pile up on top of each other, and not so flat that they will roll off into the corners of the box. The corners of the box should be well filled with straw packed in hard. I do not know but the right kind of wooden block nailed in the corners would be a good thing so as to make the interior of the box to a great extent bowl-shaped, say about like a common wash-basin.

Give the hen enough straw so she can toss it over her back and tuck it up nicely around her. Now, if your straw is soft enough, and if there is enough of it between the eggs and the sides and bottom, she can not very well break an egg. The eggs will sink down into the soft straw out of her way before they break; and in order to have plenty of room for material I would have the box about 8 inches deep inside.

We all know that hens like seclusion; and I have studied somewhat as to how to cover this nest so as to give about the kind of seclusion a hen wishes. Another box just like the one I have described, but only half as long, placed upside down over the nest, seems to be about the right thing. The nest should then be in the back end of the lower box; then the hen, to get in, steps down in the open end and walks over to the end that is covered. If she is a large hen perhaps you had better cut out the end of the upper box, say in the form of a half-circle, in order to let her get over the eggs with less trouble. And, by the way, this upper box must be fastened in some way to keep it in place. If it is hinged with leather or metal hinges on the back end of the lower box this will make a very nice arrangement. Any style of nest with a cover over it should permit of the easy removal of said cover. If an egg is broken you want full access to all the eggs, litter, and every thing else in order to clean them off. With the nest I have described you can set your basin of hot water in the end of the box opposite the nest; then your eggs can be quickly cleansed and put back on clean straw. If the water is up to 100 or 103 it will not chill the eggs at all, and the heat will dry them off when placed on clean dry straw by the time you are through. Now, if Biddy has got her feathers soiled, *she* ought to be washed off too.

May be you will say if we have got to have all this fuss with sitting hens we had better get an incubator; and I confess an incubator is much nicer to work with than a sitting hen—especially one of the pugnacious kind; but if your nest is made right, as I have tried to direct, I do not think you will very often have to wash off the eggs.

Just a few days ago I found a sitting hen in a box without a particle of straw. She had broken all of her eggs but six at different times, and not one of the six hatched a chicken. All this worry and bother, with nothing to pay for it, just for the want of a handful of the right kind of straw!

I would not have this nest in the yard with other hens if I could help it. No other hen should

be allowed by any possibility to get on when she is off. Place the box and all in a little yard by herself where she has feed, water, and gravel. This is much better than letting her be annoyed by other hens. But I do not like that as well as letting her have her liberty to go where she pleases and to stay off the nest as long as she chooses. I have several times had hens hatch and bring out eighteen chickens; and they always had a convenient nest, and had things largely their own way.

Do not let any one persuade you that there is a patent on making a little yard for each sitting hen, or on having an arrangement so the door shuts while the hen is on. All such devices are pictured and described in poultry-books printed years and years ago. Trap nests are a good thing on some accounts with sitting hens; but I do not like any of them as well as the simple box I have described. The little house like the one pictured on page 638 of last GLEANINGS is a very nice place indeed for a sitting hen. You can put the sitting hen upstairs, where it is an easy matter to handle and look after her. Where you have a lot of chickens in a fireless brooder downstairs, the doors and poultry-netting make it a very easy matter to give the sitting hens all the conditions that may be required when we have all kinds of weather unexpectedly. Now read the following letter from a good woman who not only succeeds with *poultry* but in managing a whole farm after the death of her husband:

Mr. A. I. Root.—My sister, who is interested in bees, subscribes for GLEANINGS and she has read to me your articles about the chickens, which have given us many a good laugh, and I believe there is nothing better for people who are hard at work than laughter; so, please give us more, for you are doing missionary work. You asked for the names of women who make a specialty of selling day-old chicks. Now, I do not make a specialty of that branch, but this season have advertised chicks hatched with hens, the mother to go along if necessary to care for them. My sister and I are city women who came to this farm four years ago, when my husband died, and engaged in the difficult but always interesting task of building up a run-down farm—a beautiful old place of 42 acres situated ten miles from Buffalo. My expenses are heavy, as I hire two men by the year, and a girl for the housework. We all work all the time, and my brains are "worn thin" with hard thinking over the best way to manage affairs, and the various problems which are continually arising. Many of the difficulties of the first years have been overcome; and a growing income, together with an increasing number of satisfied customers for our produce, gives us confidence to keep on, although expenses will not be materially lessened until the farm is made to produce better crops. The soil is good, but has been robbed for many years. I have an acre of fine alfalfa, and mean to have more. If I keep on with a dairy it is a necessity.

The chickens have proved a profitable branch, even with buying nearly all the feed. I winter about 300 hens, get my chickens out in March and April, usually hatching about 1000, and thus have broilers when prices are high, and pullets for winter laying. I also sell eggs for hatching, and have been successful in the show-room. I have one incubator, a 300-egg model, and I am frank to confess that the hatches are far from satisfactory, as 60 per cent is the best one. The very early hatches bring out only about 25 or 30 per cent. This year, with 243 February eggs I got 55 chickens, while hens from the same stock hatched nearly 75 per cent out of 60 eggs; and I know that incubators are a necessity, but I regret the necessity. I acknowledge all the shortcomings of the hens, and it is exasperating to have them break eggs and step on the baby chicks; but after all, one is working more in harmony with natural laws, wherein there is strength.

This year I have 30 hens sitting in the house cellar where there was a furnace fire early in the season. This took the chill from the air. The nests are roomy, and filled with oat chaff and a little straw. One can not be too careful to give plenty of litter, as the hens scratch it away in the center and leave the eggs on the bare boards, which makes her break them. Every morning the hens are lifted from the nests, fed, exercised, and replaced. They are each marked with strings on their legs. It takes more time than an incubator, but it pays. Of course if one were hatching chicks by the ten thousand I suppose this method would be impossible. I never give hens over 13 eggs.

I could talk chicken all day, for I dearly love to work among them. The only part of the business that I do not like is having them killed. It does not seem right to kill the pretty gentle creatures, and it always makes me uncomfortable. I should like to know the actual percentage of eggs hatched in incubators at the Bloom establishment very early in the season, and whether their incubators are heated with hot water or air. Unfortunately, in most of the advertisements for incubators, exceptional hatches are made the basis for their claims, and naturally the numerous failures are unmentioned; and it is a satisfaction to have, if possible, authentic reports direct from such a business as you describe. I think there should always be a cover over their heads, which gives them the sense of seclusion they love. In all classes of live stock, over-stimulation in any direction brings a corresponding reaction, and often results in disaster. My cows are out every day in winter. I have healthy lively calves to sell for breeding, at good prices; and if, instead of the interminable discussions in regard to tuberculosis, the farm journals would all preach "fresh air, fresh air, fresh air," and exercise for all domestic animals, there would certainly be less disease, and city people could drink a glass of milk without a shudder. Probably after a while they will be afraid to eat fresh eggs, but so far there is no trouble on that score. This free open-air life has been the salvation of my physical health, and my sister Louise wishes you could have some of the beautiful spring water near here, which has been a powerful factor in my recovery.

MRS. STEPHEN WALKER.

Williamsville, N. Y., May 7.

SPROUTED OATS; MORE ABOUT IT.

We clip the following from *Commercial Poultry* for May:

Hens will lay as well, and perhaps better, when kept in confinement than when on free range, if all their requirements are met; but if they are restricted to one or two kinds of grain, with no meat, grit, dust bath, shells, or exercise, and poor water, their production will be small. Green food must be supplied them, and this can be grown, as mentioned above, or it can be served in the form of sprouted grains, which are highly esteemed as an egg-producing food.

More than twenty years ago the value of sprouted grain was recognized by a few, and the process of preparing it published in the agricultural and poultry papers; but owing to the work involved it never became popular. Some years ago the *Reliable Poultry Journal* published an account of the method employed in Ireland—how they sprouted oats in boxes for the growing stock. This method was hooted at by some of our leading poultry-keepers who are now feeding sprouted grain to hens in confinement, and some even assert that it can be made the principal feed. That it does solve the question of green food, and makes it possible to keep poultry in more limited quarters than ever before, there can be no doubt.

Some place great stress on the cheapness of this feed, as a bushel of grain, especially oats, when sprouted, will increase in bulk and make four bushels; thus a bushel of oats costing sixty cents will make four bushels of feed, the cost being but fifteen cents per bushel. It is not, however, a cheap feed; it requires considerable labor to prepare. The increase is not as great as where the grain is sown in the ground, neither is there as much space required; but the labor to sprout a single bushel of oats is as great as to sow and harvest the same.

Grain can be sprouted in almost any place where it will not freeze. The warmer the place the better. In winter a warm cellar or workroom can be used; and in summer, if no better place affords, it can be done out of doors. It is best to have racks for this purpose. A frame of 1x3-inch stuff, set edgewise, 4x4 feet, with a partition in the center, is first made. To this frame securely nail lath, placing them from $\frac{1}{8}$ to $\frac{1}{4}$ inch apart. This makes a box 4x4 feet, three inches deep, with a slatted bottom and a partition in the middle. The center partition is only for the purpose of strengthening the lath. The lath should be soaked in water over night so they will not split when nailing. The number of these racks required will, of course, depend on the number of fowls to be fed.

Place the grain to be sprouted in a tub and cover with water (warm water is best) and allow it to soak for twenty-four hours. Pour off the water and let them drain for half a day, then cover the racks with old bran-sacking, single thickness, and spread the grain upon them to the depth of about two inches. If space is limited, the racks can be piled one upon another; and if out of doors a cover should be made for them that will turn rain. Night and morning the racks are taken down and the grain sprinkled with hot water, the hotter the better, using a hand watering-pot or spray-pump. The racks can then be replaced. It does not matter if the water in the upper racks drains down into those beneath, as it will all run off in time. In from ten days to two weeks, depending on the temperature, they will be ready to feed. When in proper condition for feeding, the sod will be three or four inches thick, and the growth of green food on top of this, four to six inches high. When feeding, give a block about a foot square to fifty hens. Each rack holds about a bushel and a half of grain before sprouting, and will make sixteen feeds for

fifty hens. It will answer the purpose of one grain feed and green food. With a block of this fed in the morning, corn and wheat at night, and a mash meal, grit, shells, and beef scrap in hoppers where the hens can supply any deficiency, a good, simple, and inexpensive ration is served.

I do not quite agree in regard to the expense of these sprouted oats. Where facilities are at hand, say on a farm, and land is cheap, it is, no doubt, a better way to sow oats every few days in the open ground, and let the chickens dig them out; but sprouting them in crates can be done evenings or during bad weather; and it can all be done in the cellar or in any out-building during warm weather. Where hens must be kept in confinement, sprouted grains are, without question, *the thing* to keep up a properly "balanced ration."

After the above was dictated I found the following in the *Rural New-Yorker* for May 23:

SPROUTED OATS FOR CHICKS.

A recent issue of the *Rural New-Yorker* gave Mr. Cosgrove's method of supplying hens with green food in winter. We get an ample supply at a minimum cost from sprouted oats. A furnace in the cellar or other warm place is necessary for the operation in winter; we expect to continue it this summer out of doors. The oats are placed in a water-tight vessel and covered with warm water, and allowed to stand 24 hours, when they are emptied in a box that will allow the water to drain off freely. Oats are left in this box, and wetted twice a day with warm water until the oats have sprouts a quarter of an inch long, when they are spread in boxes about one inch deep. The sprinkling is continued until the oats are as large as you desire. We usually use them when four or five inches high. The hen will eat the roots as well as the tops. With a temperature of 60 degrees, ten days will bring this result; so after the first start this green feed can be provided for each day. Chicks will eat the oats when a week old, and leave all other feeds for them. As the fowls all prefer the oats to green clippings of fresh-cut lawn grass, I shall continue the feeding of sprouted oats all summer. Since using this method of getting green food I learn that this information is being sold as a secret for \$5. As we were using this method before we heard of our friend with the \$5 secret, we feel free to offer it to your readers, having obtained the idea from the Chinese in San Francisco in 1870. The green color can be given to the oats by one day's exposure to the light. They grow as freely in the dark, and the boxes can be stacked over each other if short of room. I believe this to be the cheapest green food that can be given in the winter.

JESSE B. UPSON.

Illinois.

Some of the friends may think I am giving a large amount of space in a bee journal to this matter of sprouted grains; but after you have once made a test of it you will find it is well worth attention. It just occurs to me that the man alluded to, with his \$5.00 secret, has done the world a considerable service after all, even if the thing was not entirely new when he brought it out, for he with his persistent advertising gave it a wide publicity that it might not have had otherwise.

THE FIRELESS BROODER A SUCCESS IN UTAH.

I am using the fireless brooder, and like it far better than the ones used with artificial heat.

H. A. PINEGAR.

Wellington, Utah, May 12.

TWO INTERESTING BULLETINS.

THE United States Department of Agriculture has just issued two bulletins which are of interest to many bee-keepers. One (323) is entitled "Clover Farming on the Sandy Jack-pine Lands of the North." The other (No. 325) is "Small Farms in the Corn Belt." We think both bulletins are free. Apply to the Superintendent of Documents, Washington, D. C. W. K. M.

BIG PRICE CUT

regardless of cost or profits, on all of my 125 styles **GENUINE SPLIT HICKORY Bugles and Harness**—Sold Direct from Factory on **30 Days Free Trial**—Two Year Guarantee. Now is your chance to save many a dollar. Write for big Catalogue, Special Cut Price Sheet fully explaining the proposition. Everything goes in this sale.

OHIO CARRIAGE MFG. CO.
Columbus, Ohio




WHAT DO YOU SAY?
Several hundred thousand farmers say that the best investment they ever made was when they bought an

Electric Handy Wagon

Low wheels, wide tires; easy work, light draft. We'll sell you a set of the best steel wheels made for your old wagon. Spoke united with hub, guaranteed not to break nor work loose. Send for our catalogue and save money.

ELECTRIC WHEEL CO., Box 95 .Quincy, Ill.

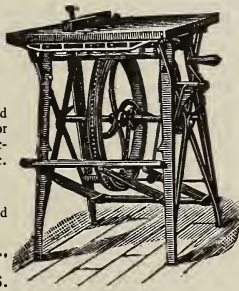
BARNES'
Hand and Foot Power
MACHINERY

This cut represents our combined circular saw, which is made for bee-keepers' use in the construction of their hives, sections, etc.

Machines on Trial

Send for illustrated catalog and prices. Address

W. F. & JNO BARNES CO.,
545 Ruby St.
ROCKFORD, ILLINOIS.



\$1.00 Mexican Palm-Leaf Hat, 50c

A comfortable, durable hat for fishing, outings, and gardening. Guaranteed genuine Mexican hand-woven from palm fiber. Double weave, light weight; colored design in brim. Retail at \$1.00. Postpaid for 50c to introduce our Mexican and Panama hats. Same hat, plain 40c, both 75c. All sizes.

SPECIAL OFFER. For \$1.00 we will send postpaid two hats like cut, with a nice specimen of Genuine Matrix Turquoise free. Art cat'g Mexican and Panama hats free.

THE FRANCIS E. LESTEE CO., Dept. EB6, Mesilla Park, N. M.



The Uhl Hatchery

Capacity 6000 chicks per week.

If you want 50 or 100 pure-bred chicks, write for our special low summer prices. We make the Brown and White Leghorns our specialty, and they are just the kind to raise during the summer. We hatch also several other varieties. Send for catalog.

M. UHL & CO., Box C, NEW WASHINGTON, OHIO.

THE "BEST" LIGHT

One burner will give as much light as ten ordinary oil lamps; six 16 candle power electric bulbs—six 16 candle power gas jets or 5 acetylene gas jets. Costs 2 cts. per week. Produces a pure, white, steady, safe light. Over 200 styles. Every lamp warranted. Agents wanted. Write for catalog.

THE BEST LIGHT CO.
306 E. 5th St., Canton, O.



SPRAY PUMPS


"TAKE OFF YOUR HAT TO THE MYERS"

25 YEARS

The Pump that pumps easy and throws a full flow. The cheapest pump is the best pump, that's a Myers. Pumps, Hay Tools & Barn Door Hangers. Send for catalog and prices.

F. E. Myers & Bro.
Ashland, Ohio.

ASHLAND PUMP AND HAY TOOL WORKS



PATENTS.

Twenty-five Years' Practice.

CHARLES J. WILLIAMSON,

Second Nat'l Bank Bldg., Washington, D. C.

Patent practice in Patent Office and Courts.
Patent Counsel of The A. I. Root Co.

12 DUMPER POST-CARDS FREE.

Newest Cards--All the Rage--Young and Old Delighted--You can Get the 12 Free.

(Offer Limited.)

We want to introduce our paper, **UP-TO-DATE**, into thousands of new homes. It is published for every member of the family—we know you will be delighted with it and profit more by reading it than any other paper you ever read. It is printed on good paper, from large type. Contains 20 to 40 large four-column pages each issue.

The Dumper Post-cards are something new. All who get them can make money with them; we will tell you how to make 50c from the twelve you get if you care to part with them. Also, we will tell you how to enter profitable employment in your own locality or elsewhere, and make \$3.00 to \$5.00 a day.

Our Offer This big offer is made for a limited time only, so send your order to-day. We will send **UP-TO-DATE** to your address six issues, and 12 Dumper Cards—all for 10c. Get in on this if you want to make a hit and earn the extra money. Only one set to a family;

UP-TO-DATE, 218 W. Washington St., Indianapolis, Ind.

Wintering Bees in Danz. Hives

FALL RIVER, MASS., April 10, 1908.

F. Danzenbaker:—Kindly send booklet about your smoker as per your ad. in GLEANINGS, current issue, and for which I thank you in anticipation. I had ten hives, average good, last fall; now I have five that survived, and in Danzenbaker hives, and as I write they are lugging in pollen in good shape. Yours, H. N. BRIGHTMAN, Fall River, Mass.

(The defunct bees were in ten-frame Langstroth.)

Pretty good! five Danz. lived, five L. died.

F. DANZENBAKER, Patentee.

What's the Matter With Hilton?

WHY!

He has got his new goods fresh from The A. I. Root factory, and his 1908 catalog, and wants you to send for one free—40 pages illustrating and describing Root's goods at Root's prices. Send him a list of what goods you want, and let him tell you how much they will cost you.

Cash or supplies for beeswax at all times.

GEORGE E. HILTON

FREMONT, :: :: MICHIGAN

Furnishing Bees and Supplies to Bee-keepers has been our business for 15 years.

NEW YORK CITY

where our supply business is located, means quick shipments and low freight rates to our customers. Our prices are f. o. b. cars here, Colony of Italian bees in an 8-frame D. T. hive, complete.....\$9.00 Italian queens.....1.00
Catalog free.

I. J. STRINGHAM,

Apiaries, Glen Cove, L.I. 105 Park Pl., N. Y. City.

Northwestern Bee-keepers!

We are headquarters for the ROOT supplies for the States of Montana, Minnesota, the Dakotas, and Western Wisconsin.

You can save freight by ordering from this branch. A complete line of bee-keepers' supplies always in stock.

Secure a catalog at once.

BEES and QUEENS.—Your orders will be attended to.

The A. I. Root Company

H. G. ACKLIN, MANAGER

1024 Mississippi Street, St. Paul, Minn.

1834

1908

Root's Goods always in stock

FOR YOU

Twenty-two successful years manufacturing bee-supplies and raising Italian bees and queens.
. Root's Goods in Stock.

J. M. Jenkins

Wetumpka, : : Alabama

Dittmer's COMB FOUNDATION

is the best, not because we say so, but because the bees prefer it to other makes.

Dittmer's Process is Dittmer's

It has built its reputation and established its merits on its own foundation and its own name.

We make a specialty of working wax into foundation for cash.

Write for free catalog, and prices on full line of supplies.

GUS. DITTMER CO., Augusta, Wis.

THE BEE-KEEPERS' Headquarters for the Southwest

Texas

Old Mexico

New Mexico

WE NOW HAVE ON HAND
AN IMMENSE STOCK OF HONEY-CANS
(13,000 cases)

Weed's New-process Foundation

We make it right here from a new set of machinery. At present our factory is running nights, as well as in daytime, to keep up with orders. Still we can take immediate care of your order when it comes, as you certainly want the best. Keep out of trouble and get the very best foundation money can buy. We have it here—made in San Antonio.

Plenty of Shipping-cases

12-in. 4-row shipping-cases with 3-in. glass	. . .	\$17.00 per 100
9 $\frac{1}{4}$ -in. 4-row shipping-cases with 3-in. glass	. . .	15.00 per 100
10-in. 2-row shipping-cases with 3-in. glass	. . .	9.35 per 100
6 $\frac{1}{4}$ -in. 3-row shipping-cases with 3-in. glass	. . .	9.80 per 100
7 $\frac{1}{8}$ -in. 3 row shipping-cases with 3-in. glass	. . .	10.70 per 100

A large warehouse of Root's Bee-supplies

Sold at Root's factory prices. Write us with regard to your wants. Catalog for the asking. If you have mislaid it, send for another.

Honey and Beeswax Wanted

We are always in the market for honey and beeswax in large or small lots. Beeswax, 27 cts. cash; in trade, 30 cts.

Whenever you are in San Antonio make our office your office, and let us show you through our plant. Stay here awhile and meet the bee-keepers as they come in. You are always welcome and will be courteously treated.

The list of prize-winners in our word contest is published in another column of this journal. See page 734.

UDO & MAX TOEPPERWEIN
1322 SOUTH FLORES ST. SAN ANTONIO, TEXAS



HIGHLAND FARM QUEENS



are the result of years of careful selection and judicious breeding from the best honey-gathering strains of superior long-tongue red-clover Italians in America and Italy. Highland Farm methods will produce perfectly developed, long-lived, and prolific queens. If you want bees that will winter well, build up rapidly in the spring, and roll in the honey. Highland Farm queens will produce them. We are now booking orders which will be filled in regular rotation, beginning

May 15. You should get in line by placing your orders early, and avoid the rush of the busy season. Single queens, \$1.00; 6, \$5.00; 12, \$9.00. Safe delivery and satisfaction guaranteed.

For further information send your address on a postal card to

HIGHLAND BEE AND POULTRY FARM, J. E. HAND, PROPRIETOR, BIRMINGHAM, ERIE CO., O.

CAUCASIAN

QUEENS

ITALIAN

1905-1906 Queen-breeder in Apiary of Dept. of Agriculture, Washington, D. C.

Caucasians from imported queen of gray type. Three-band or leather-colored variety of Italians.

All good honey-gatherers

GRAY CAUCASIANS.

Untested queens.....1, \$1.00; 6, \$5.50; 12, \$10.00.
Select untested queens... 1.25 6.75 12.75.

PRICE LIST BEFORE JULY 1.

THREE-BAND ITALIANS.

Untested queens.....1, \$.75; 6, \$4.25; 12, \$8.00.
Select untested queens... 1.00 5.50 10.00.

SAFE ARRIVAL AND ENTIRE SATISFACTION GUARANTEED.

No bee disease ever in this section.

Descriptive circular and testimonials free.

LESLIE MARTIN, :: Birdcroft Apiaries, :: LEBANON, TENNESSEE.

CARNIOLANS, BANATS, ITALIANS.

Carniolans.—Our strain of Carniolans has been line-bred for 23 years, and they are very gentle, hardy, prolific, great honey-gatherers, and builders of white combs. One untested queen, \$1.00; 6 for \$5.00; 12 for \$9.00.

Banats.—This new race of bees is gentle and hardy; the bees are good honey-gatherers, and builders of white combs, and are not inclined to swarm like other races of bees. One untested queen, \$1.50; 6 for \$7.50; 12 for \$12.00.

Italians are from best imported stock; prices the same as Carniolans. NO DISEASE, AND SATISFACTION GUARANTEED.

F. A. LOCKHART & COMPANY, :: LAKE GEORGE, N. Y.

Read This!

I am now prepared to ship queens promptly. Golden, 3-banded, yellow or dark Caucasians, Carniolans, and Banats. Assuredly you need look no further as you know there are no other very desirable races to be had. My bees have no disease, are excellent hustlers, and all tested queens are guaranteed to produce pure stock. My Golden bees are almost as gentle as Caucasians, can be handled without smoke at any time, and contain no blood. They are the yellowest I have ever seen, perfectly hardy and wonderfully prolific; three-banded are of gentle, and extra-good hustlers. Caucasians are the gentlest bees on earth. Banats are extraordinary honey-gatherers. Banats, \$2.00; tested, \$2.50. Caucasians, \$1.50; tested, \$2.00. Golden, 3-banded, or Carniolans, \$1.00; six, \$5.00; tested, \$1.50; six, \$8.00; select tested, \$2.00; six, \$10.00. Golden virgins, 50 cts. Breeders, guar'd, \$6.

Queens

C. Oscar Fluhrty, Sandusky, W. Va.

Taylor's Strain of Italians is the Best

Long tongues and goldens are the best of honey-gatherers; 19 years a specialty, breeding for the best honey-gatherers. Untested, 75 cts. each, or \$8.00 a dozen; tested, \$1.00 each, or \$10.00 a dozen; select tested, \$1.50 each. Breeders, the very best, from \$3.00 to \$5.00 each. We sell nuclei in full colonies. Bees in separate yards. Safe arrival guaranteed. Send all orders to

J. W. TAYLOR & SON, Beeville, Bee Co., Texas.

ITALIAN QUEENS



Fine young prolific 3 and 5 banded Italian queen, untested, only 75c; extra-fine queen, 81c; tested, \$1.25. Full colonies in 8-fr. hive with queen, \$5.50; 3-fr. nucleus, with queen, \$2.75. Safe arrival guaranteed. Directions to introduce go with queen. Price list free.

J. L. FAJEN, ALMA, MO.

NOT CHEAP QUEENS, BUT QUEENS CHEAP

500 Best Strain Italian Queens Ready to Mail March 1st. Untested queens in lots as follows: 1, 75 cts.; 6, \$4.25; 12, \$7.80. Tested queens in lots as follows: 1, \$1.00; 6, \$5.70; 12, \$10.80. Breeders' queens in lots as follows: 1, \$5.00; 3, \$12.00. Nuclei with untd queen: 1-fr., \$1.75; 2-fr., \$2.25; full colonies, \$4.75. Nuclei with tested queen: 1-fr., \$2; 2-fr., \$2.50; full colonies, \$5. Also dealer in bee-keepers' supplies. Root's goods. Ask for cat'g.

W. J. LITTLEFIELD, LITTLE ROCK, ARK.

PHARR'S GOLDENS

took first prize at three exhibits in 1907. We also breed Carniolans, three-banded Italians, and Caucasians, bred in separate yards and from the best breeders obtainable; guarantee safe delivery and fair treatment. Untested, 75 cts.; tested, \$1.00.

New Century Queen-rearing Co., Bercain, Tex John W. Pharr, Prop.

Golden Italian Queens, \$1;

Six for \$4.50.

Safe arrival and satisfaction guaranteed. 18 years' experience. Circular.

J. B. CASE, . . . Port Orange, Fla.

QUEENS

GOLDEN AND CLOVER STOCK.

Prices for May and June: Choice queens, \$1.00 each, 6 for \$5.00, or \$9.00 a doz.; after July 1st, 75 cents each, 6 for \$4.00, or \$7.50 a doz. Tested queens in May and June, \$1.50; after July 1st, \$1.25. Two-comb nucleus, no queen, \$2.00; three-comb nucleus, no queen, \$2.50. Full colony on eight frames, no queen, \$5.50. Five per cent discount on five, ten per cent on ten or more. CATALOG FOR 1908 FREE. SEND FOR ONE. GEO. W. BARNES, box 340, NORWALK, OHIO

ITALIAN QUEENS

Having purchased the apiaries and queen-rearing business of Mr. A. E. Titoff, at Ioamosa, Cal., I hereby politely tip my hat to the bee-keeping world and wish to say that I shall use every endeavor in my power to serve you faithfully and honestly.

Send for circular and price list.

Yours for the best queens and bees,

E. M. GRAVES,

Ioamosa, San Bernardino Co., Cal.

Westwood Red-clover Queens

Are the bees that got the honey in 1907. Better try them for 1908. Nuclei and full colonies a specialty. Price list on application.

HENRY SHAFFER, 2860 Harrison Ave., Sta. L, Cincinnati, O.

W. H. Laws is again on hand for the coming season with a larger stock of queens than ever before. He sold 400 queens to a New Mexico producer last May who wrote, "Your stock is far ahead of those Eastern queens I have been buying," and has placed his order for 1000 more of the Law queens to be delivered in May and June coming.

Others write that, if they had purchased all Laws queens, their crop of honey would have been doubled. Testimonials enough to fill this book. If you are going to improve your stock, had you not better investigate?

Single queen, \$1.00; dozen, \$10.00; breeders, the best, each, \$5.00. **W. H. LAWS, Beeville, Bee Co., Texas.**

ITALIAN QUEENS BY RETURN MAIL OR MONEY REFUNDED.

Warranted, \$1.00 each, six for \$5.00; tested, \$1.50 each. Circular free.

D. J. BLOCHER, PEARL CITY, ILL.

MILLER'S SUPERIOR ITALIAN QUEENS

By RETURN MAIL, bred from best Red-clover working strains in U. S. No better hustlers; gentle, and winter excellent; untested, from my SUPERIOR breeder, 1, \$1.00; 6, \$5.00; 12, \$9.00. After July 1st, 1, 75c; 6, 4.00; 12, \$7.50. Special prices on lots of 50 or more. Satisfaction and safe arrival guaranteed. Circular free. **ISAAC F. MILLER, :: Reynoldsville, Pa.**

Queens Queens

of the

FINEST POSSIBLE BREEDING

BRED BY

F. J. WARDELL,
UHRICHSVILLE, OHIO, U. S. A.

After many years' experience as head queen-breeder for The A. I. Root Co., I am now breeding bees at the above address. My stock is equal to any now advertised, and my long experience enables me to judge very accurately the value of any strain. Mine is the celebrated red-clover stock, which has given so much satisfaction to thousands of buyers for a number of years past. If you desire something very select for breeding purposes, write to me, stating your wants, and the same will be supplied. I have no cheap or inferior queens to sell. My prices for the season are as follows:

	May to June.
Untested queen	\$1.25
Select untested queen	1.50
Tested queen	2.50
Select tested queen	3.50
Breeding queens	6.00
Select breeding queens	9.00
Extra select	1 year old, 12.00

No untested queens sent before May 15; but to secure your queens early in the season it is necessary to order now. Absolutely, all orders filled in rotation.

5000 QUEENS

of the famous 3-banded LONG-TONGUE RED-CLOVER STRAIN OF ITALIAN BEES is what I want to sell this season.

My bees GATHER HONEY if there is any to get; ARE LITTLE inclined to swarm and sting, they please such people as The A. I. Root Co., R. F. Holtermann, W. Z. Hutchinson, Morley Pettit, etc., and if they don't please you, send in your kick.

Queens of all grades now ready.

	1	6	12
Untested queens	\$1.00	\$5.00	\$9.00
Select untested queens	1.25	6.00	11.00
Tested queens	1.50	8.00	15.00
Select tested queens	2.00	11.00	20.00
Breeders, \$5.00 to \$7.00.			

W. O. VICTOR (Queen Specialist), Hondo, Tex.

When You Need Queens and want Your Order Filled By Return Mail.



Three-band Italians bred for business. Tested, \$1.00; untested, 75c; \$8.00 per doz. Send for price list.

J. W. K. SHAW & CO.,
Loreauville, Iberia Pa., La.

CHOICE QUEENS

ITALIANS AND CARNIOLANS.

1 untested, 75c; 12, \$7.50. 1 tested, \$1.00; 12, \$11.00.
1 selected tested, \$2.00. 1 breeder, \$3.00.

Nuclei, full colonies, and bees by the pound at low prices.

CHAS. KOEPPEN, Fredericksburg, Va.

GOLDEN-ALL-OVER and RED-CLOVER ITALIAN QUEENS

My stock is the result of years of careful selection, and is equal to any in the country. The prices are only such as to insure long-lived, prolific queens, whose workers will be hardy and good honey-gatherers. Write for 1908 circular.

	1	6	12
Untested	\$1.00	\$5.00	\$9.00
Select untested	1.25	6.50	12.00
Tested, \$1.75 each; select tested, \$2.00 each.			

Positively all orders filled in rotation.

Wm A. Shuff, 4426 Osage Ave., Philadel phia Pa



DANIEL WURTH'S QUEENS.

Golden Five-banded
and Three-banded.

Finest that can be had at any price; large and prolific. Have had 35 years' experience. Having moved from Pitkin, my address is Fayetteville, Ark., R. F. D. box 5, A.

Untested, \$.75 each; 6, \$4.35
Tested, 1.00 each; 6, 5.50

THE DANZENBAKER SMOKER

PAT. OCT. 3, '06, JUNE 4, '07

GOLD MEDALS

St. Louis Exposition, 1904
Jamestown Exposition, 1907



IS THE BEST,
STRONGEST,
COOLEST,
CLEANEST,
CHEAPEST,
AND LARGEST
SMOKER SOLD
FOR A DOLLAR

The perforated side grate seen above holds a removable, metal, asbestos-backed fire shell, preventing burning the tin off the outer case, and deflects the air at right angles, preventing back draft to the valveless bellows. The air, passing to the back and over the top, cools and expels the smoke, fanning the burning fuel at top or side till all consumed, giving cool smoke for hours from one filling. It can't clog. No top-heavy cap to choke with soot: no valve to fail; no holes shedding sparks or hot ashes.

Four years' sales prove its success beyond a doubt, expensive dies making it uniformly perfect as possible to devise. We confidently guarantee full satisfaction or refund the price.

Price, \$1.00; 3 for \$2.50; by mail, add 25c. each

Send address of yourself and Bee friends for 8-page leaflet on "Smoker," and facts about Bees and Queens, 80 pages, free.

F. DANZENBAKER, Norfolk, Va.

At St. Louis

On a  Line

to all points in the South and
Middle West.

Send for our free illustrated catalog of

Root's Bee-supplies

We sell at factory prices.
Send us a trial order.

Beeswax Wanted.

Blanke & Hawk Supply Co.

DEPT. B.

1009-11-13 Lucas Ave. St. Louis, Mo.

Manufacturers and Jobbers of Dairy, Creamery, Ice-cream, and Poultry Supplies.

North Texas Bee-keepers

will find Dallas the best point from which to purchase supplies. We have a carload of **ROOT'S GOODS IN STOCK**, and sell them at the Factory Prices. Don't forget that we can furnish any thing in the way of Field or Garden Seeds, Plants, and Poultry Supplies. Our large illustrated catalog for 1908 free on application. Mention GLEANINGS when you write.

TEXAS SEED AND
FLORAL COMPANY

Dallas, : : Texas

Hammer Free!

With Every Order of Supplies of \$5.00 or Over.



This is the handiest tool for nailing up hives, frames, and all parts, or for opening up hives. Made of steel, nickeled.

Three per cent discount off all prices in catalog.

FULL LINE OF ROOT'S GOODS

NO CHARGE FOR DRAYAGE.

John N. Prothero
Dubois, .. Pennsylvania

TO LAND SELLERS

There is a continual demand for farms or ranches suitable for bee-keeping. If you have the right kind of place, and can satisfy us on that point, we are certain you can dispose of it to one of the 35,000 readers of GLEANINGS IN BEE CULTURE, by inserting a small advertisement in its pages.

There is no other medium by which you may reach the great constituency of bee-keepers. The cost of such an advertisement is small when compared with the results.

WRITE TO

THE ADVERTISING MGR. OF
GLEANINGS IN BEE CULTURE

MEDINA, OHIO

Big Stock of Root Co. and Marshfield Co. BEE-SUPPLIES AT FACTORY PRICES

to close out on account of poor health. Parties sending me cash order for \$15.00 or over before June 30, I will give 10% off. If not enough in stock to fill order, will order balance from factory and give 5% off on same.

S. D. BUELL, . . . UNION CITY, MICH.

Convention Notices.

The third field day of the Massachusetts Bee-keepers' Society will be held at Littleton, Mass., by invitation of the former President, Mr. F. H. Farmer, on Saturday, July 18. Come with your friends and have a pleasant day. Try to come on forenoon trains, which leave North Union Station at 8 and 11 o'clock. This is a basket-lunch picnic. Fare from Boston, 60 cents each way; ten-ride tickets, \$6.30. It is impossible to give exact time of trains, as the new time-table does not go into effect until June 22. There are several forenoon trains, also an afternoon train at 2:10. We expect to meet members from the Worcester County Society there. Practical demonstrations will take place.

Belmont, Mass.

X. A. REED, Pres.

The ninth annual meeting of the Texas Bee-keepers' Association will take place at the Farmers' Congress at College Station, Texas, on the grounds of the A. and M. College, July 8, 9, 10. There will be many topics of special interest to bee-keepers this year—serious questions in which all who can should take part. Several new features will be introduced in the program also, the chief of which is that of practical demonstrations instead of the heretofore many long papers that were read before the conventions. The question-box is always to be open, and all are asked to help make this the liveliest meeting of bee-keepers that Texas has ever had. Low rates of transportation, attractive grounds, good entertainment, and reasonable meal rates, help to make the attendance both pleasant and profitable. There will be exhibits of bee-keepers' products, for which special premiums will be awarded, so that all are requested to send what they can. All information may be obtained from Louis H. Scholl, New Braunfels, Texas. The following is a copy of the

PROGRAM.

Call to order; prayer; President's address; reception of new members; general business.

Location of apiary.—W. C. Conrads, New Braunfels; W. E. Crandal, Floresville.

Where to commence preparation of apiary for a honey-flow.—D. C. Milam, Uvalde; Willie Archley, Beeville.

Foul brood in Texas, and what to do with it.—Prof. Louis H. Scholl, New Braunfels.

Prevention of swarming, and increase.—F. L. Aten, Round Rock.

Best methods of queen-rearing, and success with baby nuclei.—W. H. Laws, Beeville; John W. Pharr, Beclair.

Production of extracted honey.—T. P. Robertson, Bartlett; O. Sueltenfuss, San Antonio.

Marketing honey.—Udo Toepperwein, San Antonio.

Is it profitable to have apiaries in another State?—W. O. Victor, Hondo.

Comparative profit in the production and sale of extracted chunk comb and section honey.—A. H. Knolle, Hondo; Hugo Sattler, New Braunfels.

Bee-keepers' exhibits at fairs.—Dr. C. S. Phillips, Waco; J. M. Hagood, Enloe.

The value of hives made from Texas pine.—W. H. White, Blossom.

Report of the College apiary.—Prof. Ernest Scholl, College Station.

Report of committee on awarding premiums, etc.

Election of officers, and completion of all business that should come before the association.

The question-box will be taken up at each session.

F. L. ATEN, Committee on Program.

LOUIS H. SCHOLL, Sec'y and Treas.

CHEAP LUMBER

The Gordon Van Tine Company are now prepared to supply buyers with all kinds of ordinary lumber for building purposes at sawmill prices. Car lots may be purchased and delivered anywhere in the United States at one-third under dealers' prices for similar quality.

If you intend to build a house or barn, factory, church, store building, or any other structure, send the list of material to the Gordon Van Tine Co. for an estimate of cost.

You may also obtain an immense free catalog of 2000 items, simply by sending a written request for it. Address all correspondence to Gordon Van Tine Co., 763 Case St., Davenport, Ia.

CLASSIFIED ADVERTISEMENTS

Notices will be inserted in these classified columns at 25 cents per line. Advertisements intended for this department can not be less than two lines, and should not exceed five lines, and you must say you want your advertisement in the classified columns or we will not be responsible for errors.

Help Wanted

WANTED.—Man of some experience to work with bees. State age, experience, and wages. Unless these particulars are given, no attention will be paid to reply.

THE ROCKY MOUNTAIN BEE CO., Berthoud, Colo.

Poultry Offers

FOR SALE.—White Wyandottes, best breeding, 15 eggs, 75 cts.; 30, \$1.25. J. F. MICHAEL, Winchester, Ind.

A. I. Root's Bee-goods, Poultry-supplies, Seeds, etc.
STAPLER'S, 412-414 Ferry St., Pittsburgh, Pa.

FOR SALE.—Indian Runner duck eggs from choice stock, \$1.00 per 12; \$4.00 per 55; \$6.50 per 100.
KENT JENNINGS, Mt. Gilead, O.

Fifteen S. C. B. Leghorn eggs given free with every order for six or more queens if mentioned with the order. See advertisement, page 481. Regular price for eggs, \$1.00 per 15; \$1.25 per 30; positively by return express.

J. E. HAND, Birmingham, Ohio.

Food Products.

Send for circular and price list of Smucker's apple butter. Guaranteed to be absolutely pure. Agents wanted.

J. M. SMUCKER, Orrville, Ohio.

For Sale

FOR SALE.—Bee-supplies at Root's catalog prices.
SUPERIOR HONEY CO., Ogden, Utah.

FOR SALE.—Cheap. Small gasoline-engine; also some supplies at wholesale prices. ARTHUR LAING, Woodstock, Ont., Can.

FOR SALE.—Mated thoroughbred homer pigeons at \$1.00 per pair.
FRANKLIN G. FOX, Erwinna, Pa.

FOR SALE.—Tasmanian necklace shells, any quantity. Sam ple sent.
G. H. SMITH, Ramsgate, Tasmania.

FOR SALE.—300 lbs. Dadant's thin brood foundation, size 8x17 inches.
C. J. BALDRIDGE, Kendaia, N. Y.

FOR SALE.—A full line of bee-keepers' supplies; also Italian bees and honey a specialty. Write for catalog and particulars.
W. P. SMITH, Penn. Miss.

FOR SALE.—Pure-bred Berkshire pigs of the best type and breeding; age 2 months; price \$7.00 each.
A. M. BAKER, Hartmonsville, W. Va.

FOR SALE.—If you want an illustrated and descriptive catalog of bee-keepers' supplies for 1907 send your name and address to
FRANK S. STEPHENS,
(Root's Goods.) Paden City, W. Va.

Don't bother with cans. Kegs are cheaper and easier to fill and handle. 160-lb. pine kegs, with 2-in. hole and plug, 50 cts. each, f. o. b. factory. Orders given prompt attention. Send list of supplies needed. I can save you money.

N. L. STEVENS, Moravia, N. Y.

FOR SALE.—Ten shallow extracting-supers, new, 40 cts. each; \$3.00 for the lot.
H. J. AVERY, Katonah, N. Y.

FOR SALE.—Root sections, foundation, and all other bee supplies. Send order to SUPERIOR HONEY CO., Ogden, Utah.

FOR SALE.—Thoroughbred O. I. C. pigs, to be shipped in July and August; guaranteed to please or money refunded—and will guarantee safe arrival.
FRANK E. SMITH,
R. F. D. 1, Queen City, Mo.

FOR SALE.—200 cases of 5-gallon cans. All are free from rust inside, and the majority have been used but once. Two cans in a case; 10 cases or more, 25 cts. per case.
J. E. CRANE & SON, Middlebury, Vermont.

FOR SALE.—About 1300 or 1400 cases, two five-gallon cans each, practically free from nail-holes, and were new tins when originally shipped to us. Make us an offer.
CLEVELAND HEALTH FOOD CO., Cleveland, O.

FOR SALE.—Best Wisconsin sections, 1000, \$4.00; 2000, \$7.75; 3000, \$11.00, 5000, \$17.50; No. 2, 50 cts. less; plain, 25 cts. less, 24-lb. 2-in. glass shipping-case, 14 cts. Catalog free.
H. S. DUBY, St. Anne, Ill.

FOR SALE.—Alexander wire bee-veils, no pins or sewing required; made from the very best wire cloth at 60 cents each, postpaid.
FRANK ALEXANDER,
Delanson, N. Y.

FOR SALE.—Complete shirt-factory outfit, consisting of 20 stitchers, one zigzag machine, one two-needle machine, and one button-hole machine, tabling, shafting, and pulleys for same. One 3½-horse-power gasoline engine; also cigar-box-factory machinery.
S. Z. MUSSELMAN, New Holland, Pa.

Complete House Plans

Complete blue-print plans, \$10. For concrete cottage: Six rooms; bath; full basement. Est. cost, \$1200. Circular free
CHAS. JAMISON, 444 Board of Trade, Indianapolis, Ind.

Real Estate for Bee-keepers

FOR SALE.—Five acres of ground, eight-room house, barn, chicken-houses, carriage-shed, vinegar-cellar, honey house with all appliances, and 150 stands of bees.
C. R. ELLIS, Mancos, Colo.

FOR SALE.—New house, four large rooms and porch, well-made and finished; two town lots, 104x140, in a live incorporated town, healthful location. 35 colonies of pure Italian bees.
H. F. HITCH, box 2, Pineville, La.

Wants and Exchanges

WANTED.—Refuse from wax-extractors and old comb or cash
ARCHIE COGGSHALL, Gorton, N. Y.

WANTED.—Refuse from the wax-extractor, or slumgum State quantity and price.
OREL L. HERSHISER,
301 Huntington Ave., Buffalo, N. Y.

WANTED.—To lease 100 or more colonies of bees for 1909, in location favorable to specialty, or will work for some good bee-keeper. Western States only.
CLYDE CLEMENS,
Crawfordsville, Iowa.

Bees and Queens

Untested queens (shipped from South), 60 cents each. Also bee-supplies. List free.
A. RATTRAY, Almont, Mich.

FOR SALE.—Nuclei: 1, 2, and 3 frame, with fine queen, \$1.50, \$2.50, \$3.50.
R. R. FOSLER, Milford, Neb.

FOR SALE.—100 Heddon supers, wired combs, for 50 cents each.
W. L. COGGSHALL, Groton, N. Y.

FOR SALE.—Italian and Carniolan queens, untested, 75 cts.; tested, \$1.00.
GEO. E. KRAMER, Valencia, Pa.

Golden mortgage-lifters, untested queens, \$1.00; tested, \$1.50 to \$3.00.
D. E. BEST, Best, Lehigh Co., Pa.

FOR SALE.—800 colonies of bees; for particulars, address
DR. GEO. D. MITCHELL & Co., Ogden, Utah.

FOR SALE.—Italian queens, hustlers. Untested, 65c; tested, \$1.00.
MRS. J. W. BACON, Waterloo, N. Y.

FOR SALE.—Northern-bred red-clover queens. Untested, 75 cts.; tested, \$1.00.
E. S. WATSON,
R. F. D. No. 2. Madison, Maine.

Red-clover Italian queens exclusively, one of the best honey-gathering strains in existence. Untested, 75 cts. each; 6 for \$4.25; virgin, from pure Italian mothers, 30 cts.
F. M. MAYBERRY, Lederach, Pa.

FOR SALE.—Italian bees and queens now ready. Untested, \$1.00; tested, \$1.50. Bee-keepers' supplies, Root's goods. Send for prices. Eggs from Silver-laced Wyandotte poultry.
N. V. LONG, Biscoe, N. C.

CLOVER AND ITALIAN QUEENS. Untested, 75 cts.; tested, \$1.00 each; Caucasians, 4-frame nuclei with fine queen, \$4.00; full colonies of bees, 8-frame hive, \$6.50. Send for my circular.
G. RUTZAHN, Biglerville, Pa.

FOR SALE.—25 colonies Italian bees, No. 1 condition, no disease; four-frame extractor, extractor bodies with knives, heater, and all other appliances for successful bee-keeping. Reason for selling, no place to keep them.
GEO. L. HERRICK,
11938 Parnell Ave., West Pullman, Ill.

FOR SALE.—After May 15, Italian, Carniolan, Caucasian queens, untested, 75 cts.; 12, \$8.50; virgins, 40 cts.; 12, \$4.50. Nuclei, after June 10, 1, 2, 3 frames, including queens, \$2, \$3, \$4. Orders booked now. (Stamps not accepted.)
EDWARD REDDOUT, Baldwinville, N. Y.

Honey and Wax for Sale

FOR SALE.—White comb honey, \$3.25 per case; also fancy white or amber extracted honey in 60-lb. cans or barrels.
HAROLD HORNOR, Jenkintown, Pa.

FOR SALE.—5000 lbs. of clover and amber honey in 160-lb. kegs.
C. J. BALDRIDGE, Homestead Farm,
Kendalia, N. Y.

FOR SALE.—Choice extracted honey for table use—thick, well ripened, delicious flavor; color, light amber; remained on hives for months after being sealed over. Price 8 cts. per lb. in 60-lb. cans, two to case. Sample, 10 cts.
J. P. MOORE, queen-breeder, Morgan, Ky.

Honey and Wax Wanted

WANTED.—White ripe extracted honey; will pay cash.
GEORGE RAUCH,
No. 5343 Hudson Boulevard, North Bergen, N. J.

WANTED.—Comb, extracted honey, and beeswax. State price, kind, and quantity.
R. A. BURNETT, 199 South Water Street, Chicago, Ill.

Bee-keepers' Directory

Root's goods reach you from us quickest.
SUPERIOR HONEY CO., Ogden, Utah.

Bee-keepers' Supply Co., Lincoln, Neb. We buy car lots of Root's goods. Save freight. Write.

ITALIAN QUEENS from imported mothers; red-clover strain, \$1.
A. W. YATES, 3 Chapman St., Hartford, Ct.

ITALIANS, CARNIOLANS. No disease. Two-comb nucleus with queen, \$3.00.
A. L. AMOS, Comstock, Nebraska.

Golden-all-over and red-clover Italian queens; circular ready.
W. A. SHUFF, 4426 Osage Ave., Philadelphia, Pa.

I club a high-grade Italian queen with GLEANINGS, new or renewal.
W. T. CRAWFORD, Hinston, La.

ITALIAN BEES, queens, honey, and Root's bee-keepers' supplies.
ALISO APIARY, El Toro, Cal.

Golden Italian queens, 75 cts. each. Satisfaction guaranteed.
WALTER S. HANS, 1127 Blaine Ave., Indianapolis, Ind.

Well-bred bees and queens. Hives and supplies.
J. H. M. COOK, 70 Cortland St., New York City.

For bee-smoker and honey-knife circular send card to
T. F. BINGHAM, Farwell, Mich.

GOLDEN yellow Italian queens—my specialty. Price list free.
E. E. LAWRENCE, Doniphan, Mo.

ROOT'S BEE SUPPLIES. Send for catalog.
D. COOLEY, Kendall, Mich.

Are you prepared for swarming. Order hives from
SUPERIOR HONEY CO., Ogden, Utah.

SWARTHMORE Golden-all-over queens—the famous original stock. Queen-rearing outfits and books; 40-page catalog.
E. L. PRATT, Swarthmore, Pa.

Root's bee-supplies at factory prices, *Black Diamond Brand Honey*, and *bee-literature*. Catalog and circulars free.
GEO. S. GRAFFAM & BRO., Bangor, Maine.

Have you seen Hand's queen circular? It's an eye-opener. Your address on a postal card will bring it. It will pay you to send for it.
J. E. HAND,
Birmingham, Erie Co., Ohio.

QUEENS.—Improved red-clover Italians, bred for business, June 1 to Nov. 15, untested queens, 60 cts.; select, 75 cts.; tested, \$1.00 each. Safe arrival and satisfaction guaranteed.
H. C. CLEMONS, Boyd, Ky.

Improved Italian queens now ready. Nuclei and colonies May 1 to 10. Over twenty years a breeder; 500 colonies to draw on. Free circulars and testimonials. For prices see large advertisement in this issue.
QUIRIN-THE-QUEEN-BREEDER, Bellevue, O.

ITALIAN BEES AND QUEENS. I breed three-banded stock only, and use the finest breeding stock to be had. For prices, see display advertising columns in this issue. Send for price list. Twenty-five years' experience.
F. J. WARDELL, Uhrichsville, O.

TENNESSEE QUEENS.—Best that experience can produce. Untested three-band and goldens, \$1.00 each; 6 for \$5.00; 12 for \$9.00. Caucasians and Carniolans, \$1.25 each. Write for circular; order goldens from Ben G. Davis; others from John M. Davis, Spring Hill, Tenn.

Breeding queens of pure Caucasian and Carniolan races—price \$3.00. Order from A. E. Titoff, Expert in Apiculture, with Russian Department of Agriculture, Kieff, Russia. Remit with orders. Correspondence in English.

SPECIAL NOTICES

By Our Business Manager

We have had a number of shipments of queens direct from Italy, and in every case they have arrived in first-class shape. In fact, their condition is very remarkable, and we do not recollect ever receiving them so uniformly good. If you are on the outlook for young vigorous imported queens we have them.

ONE-FRAME OBSERVATION HIVES.

We still have a few slightly shop-worn observation hives, one-frame, with super, which sell for \$3.00, which we offer to close out at \$2.40 each.

FOUNDATION SPLINTS.

Some have been writing Dr. Miller for foundation-splints. He does not have them for sale. We are prepared to furnish them for 10 cts. per 100, 50 cts. per 1000 postpaid, or 40 cts. per 1000 with other goods.

FIRE AT ST. PAUL BRANCH.

Just as we go to press we have a despatch advising of a fire damage to St. Paul stock. Particulars are not at hand. We are shipping them a car of stock, and they will doubtless soon be in shape to take care of orders as usual.

HIVE NUMBERS.

We can supply hive numbers with figures $1\frac{1}{2}$ inches high, printed on tough cardboard, then boiled in paraffine so as not to be injured by the weather. They may be fastened to the hive with tinned tacks. We have them in sets up to 400 numbers. Price \$4.00 per set postpaid, or \$3.50 with other goods; 100 postpaid, \$1.15, or \$1.00 not prepaid; 50 postpaid for 65 cts.; not prepaid, 60 cts.

BEESWAX.

For good average beeswax shipped before the end of June we will pay 29 cts. per lb. cash, or 31 in trade delivered here. The season is so far advanced that we make this raise of 1 ct. per lb. for two weeks only, because we do not want to stock up at the close of the season at high prices. If you have any to furnish send it on at once and secure this temporary rise in price.

ROOT'S WEED FOUNDATION.

During the month of May we shipped over 33,000 lbs. of comb foundation, which is about 9000 lbs. ahead of our best previous month in this or any former year. The aggregate of our shipments for April and May is also in excess of the same months in former years. This goes to show that we are pushing out goods at a rapid rate in our efforts to supply the excessive demand this season.

PROMPT SHIPMENTS.

In spite of our best efforts a goodly number of our customers, for orders sent here as well as to some of our branch houses and agencies, have had to wait longer than seemed to them reasonable. Conditions are about normal again; and as we go to press we are much closer up on orders, and prepared to give prompt service. Hives are still in demand. At no time have we been short on sections. We have a good stock ready for immediate shipment, and are turning out new stock at the rate of over 2,000,000 per month. We are well supplied with most sizes of shipping-cases. If in need of goods promptly, send on your orders.

SIMPLEX HONEY-JARS.



The factory people have advised us of a carload of these jars as already on the way to us, with more to follow in due course. By the time your order reaches us we shall have a supply in the warehouse, ready for instant shipment. They will be packed in reshipping-cases of two dozen each, and the price will be \$1.10 per case; six cases, \$6.30.

NO. 25 HONEY-JARS.

During the past year we have had an unusual amount of trouble with breakage of this jar, even in the reshipping-cases packed with corrugated paper. The breakage occurred either in the porcelain cap or the top rim of the jar where the cap rests. We find we can get this same jar with lacquered tin cap without the

center being cut out.

This cap is lined with a waxed paper

wad which seals tight on the top edge of the jar. This style of cap not only does away with nearly all breakage, but enables us to furnish the jar at a lower price. We are now ready to fill orders. They will be packed as usual, two dozen in reshipping partitioned cases. No. 25 jars, tin cap lined, 90 cts. per case; 6 cases, \$5.10. We can still furnish from stock the usual style of No. 25 with porcelain caps at \$1.10 per case; 6 cases, \$6.30.

SPECIAL DANZ. SUPERS.

Of the special Danz. supers offered from Floresville, Texas, we still have to dispose of 80 to 90 in which little can be counted on for sections and foundation starters; otherwise they are complete regular Danz. supers, $16\frac{1}{4} \times 20$ outside measure, fitted with Danz. section-holders, H. S. M. fences and springs, nailed and painted; worth from regular stock \$1.00 each; will sell them at \$5.00 for 10, or the lot at 40 cts. each.

There are also 400 shipping-cases for 20 Danz. sections, put up 50 in a crate, which we offer at \$6.00 per crate or \$10.00 per 100 for the lot. These goods, of course, are offered subject to previous sale, and should be taken quickly at these prices.



JAPANESE BUCKWHEAT.

The season for sowing buckwheat is at hand. We have a choice lot of seed grown for us last season, which we offer, bags included, at 15 cts. per pound, postpaid; not prepaid, 5 cts. per lb.; 45 cts. per peck; 85 cts. per half-bushel; \$1.50 per bushel; 2 bushels, \$2.50; 10 bushels, \$11.50.

SECOND-HAND FOUNDATION-MILLS.

We have to offer the following second-hand foundation-mills in good condition. We shall be pleased to hear from any one interested. To such we can send a small sample of comb foundation representing the kind of work produced by the particular machine you inquire about.

No. 079.— $6 \times 2\frac{1}{2}$ -inch hex. cell thin-super mill, in very good condition. Price \$12.00.

No. 078.— $6 \times 2\frac{1}{2}$ -inch hex. cell thin-super mill, in good condition. Price \$12.00.

No. 086.— $6 \times 2\frac{1}{2}$ -inch hex. cell extra-thin-super mill, in good condition. Price \$12.00.

No. 075.— 2×9 hex., very old style, on frame with wood base; in fair condition. Price \$10.00.

No. 085.— $2\frac{1}{2} \times 6$ hex. thin-super mill, in good condition. Price \$12.00.

No. 086.— $2\frac{1}{2} \times 6$ hex. extra-thin-super mill in extra-good condition. Price \$15.00.

No. 096.— $2\frac{1}{2} \times 10$ hex. light-brood mill; almost new; in fine condition. Price \$20.00.

No. 097.— $2\frac{1}{2} \times 10$ hex. light-brood mill; in fine condition. Price \$18.00.

No. 077.—10x2-inch medium-brood round cell, old-style frame, in good condition. Price \$14.00.

No. 092.—6x2½-inch hex. cell extra-thin-super mill, in fine condition. Price \$15.00.

No. 2275.—6x2½-inch hex. cell extra-thin-super mill, in good condition. Price \$13.00.

BEES AND QUEENS.

Everybody nowadays, with any pretensions to success, tries to keep pure-bred stock, whether it is horses, cattle, swine, poultry, or bees. With mongrels you are working in the dark. Pure-bred stock of any kind is a credit to all concerned—breeder, dealer, and purchaser. We have tried to keep the best stock possible; and that we have succeeded is best borne out by the testimonials we have received and are continually receiving from customers. Here is a sample testimonial (we have others).

Streator, Ill., June 5, 1908.

A. I. Root Co.—My hive and bees I have received. I received the hive Wednesday and bees Thursday. I have them in their new chaff hive. They cost me \$22.25, but I would not take \$50.00 for them; well pleased; without doubt the nicest bees I ever saw in my life.

Yours truly,

HERSCHEL E. MOFFITT.

If you wish to breed bees for sale or show purposes you must have fine stock to begin with. A discriminating public will have no other. We are always ready to quote reasonable prices for fine stock in large lots. We do not breed the other kind. Now is the time to purchase bees.

PRICES OF NUCLEI.

	Oct. to July.	July to Oct.
1-fr. nucleus without queen	\$3 00	\$2 00
2-fr. nucleus without queen	4 50	3 00
3-fr. nucleus without queen	5 50	3 50
5-fr. nucleus without queen	6 50	4 50
	Oct. to July.	July to Oct.
Col. in 8-fr. Dov'd hive, no queen	\$10 00	\$7 50
Col. in 10-fr. Danz. hive, no queen	11 00	8 00
Col. in 10-fr. Dov'd hive, no queen	12 00	9 00

We can supply with the nuclei any of the queens mentioned in list. When one buys an extra-select queen, or any high-priced queen, he would do well to have her come in a nucleus. This will assure safe arrival.

Special Notices by A. I. Root

"LYDIA E. PINKHAM" AND FAKE TESTIMONIALS.

We are rejoiced to learn by the *Mail Order Journal* for June that the Lydia E. Pinkham Co. has been fined \$6000 for using the photograph of a young lady, together with a *forged testimonial* in favor of their medicine, without the permission or knowledge of the young lady whose photo was used. Now, if this will establish a precedent so the Duffy whisky people and all medicine companies can be prosecuted likewise, we can all "rejoice and be glad." Heretofore it has seemed that this sort of forgery could not be reached by any existing laws; but I think it is high time that these medicine-swindlers be taught better.

THE WRIGHT BROTHERS AND THEIR FLYING-MACHINE.

Since the report in our last issue, the elder of the Wright Brothers has gone to France. The following, clipped from the *Woman's National Daily*, gives a glimpse of what is going to be done:

PARIS, June 2.—One of the men associated with Mr. Wilbur Wright in the aeroplane trials that are to take place in the north of France said to day that Wright was confident of meeting conditions laid down by Lazare Weiler, who has offered \$100,000 for the Wright aeroplane if it will make two flights of 50 kilometers within a week, carrying two passengers and enough gasoline for a 200-kilometer flight, or ballast equivalent to this. "I have already equaled this distance," said Mr. Wright, "in the flights at Manteo, N. C. Fifty kilometers is 31 miles, and I shall be disappointed if I do not sail further than this in a single flight. Our machine has sailed with two passengers, though we have never carried a weight equal to that imposed by Weiler."

With what is now going on in other parts of the world with successful flying-machines, I think it is quite likely that *some of us*, at least, will see them going over our heads before another winter.

THE "STAINLESS-FLAG" PAMPHLET.

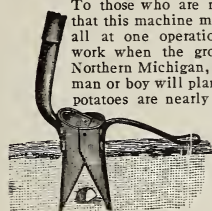
I find we have at present something like 200 copies left, and therefore we can not undertake to furnish in the future more than one copy to each applicant. If you did not get one last year, and would be glad to see a copy of this great temperance tract, let us

know and we will mail you one as long as they last. If you should be in need of more than a single copy, apply to your own State Superintendent of the Anti-saloon League. I think the 100,000 copies or more, distributed, of this temperance pamphlet have had much to do with the great prohibition wave that is now circling not only all over our land but all over the world.

THE ACME HAND POTATO-PLANTER.

As we are now out of the seed-potato business we offer about four dozen Acme potato-planters at a big bargain to close out.

To those who are not familiar with them we will say that this machine makes the holes, and drops and covers all at one operation. Once over the field does the work when the ground is fitted. In the soft soil of Northern Michigan, the great potato region, one expert man or boy will plant two acres in a day. Up there the potatoes are nearly all planted with this little implement.



A year ago we offered them at 55 cents each, or three or more at 50 cents each, or one dozen for \$5.25. While they last we will make you a price of 45 cents each, or three planters for \$1.20, or a crate of 12 for \$4.00. If you want them at the

above price you had better get your order in before they are gone.

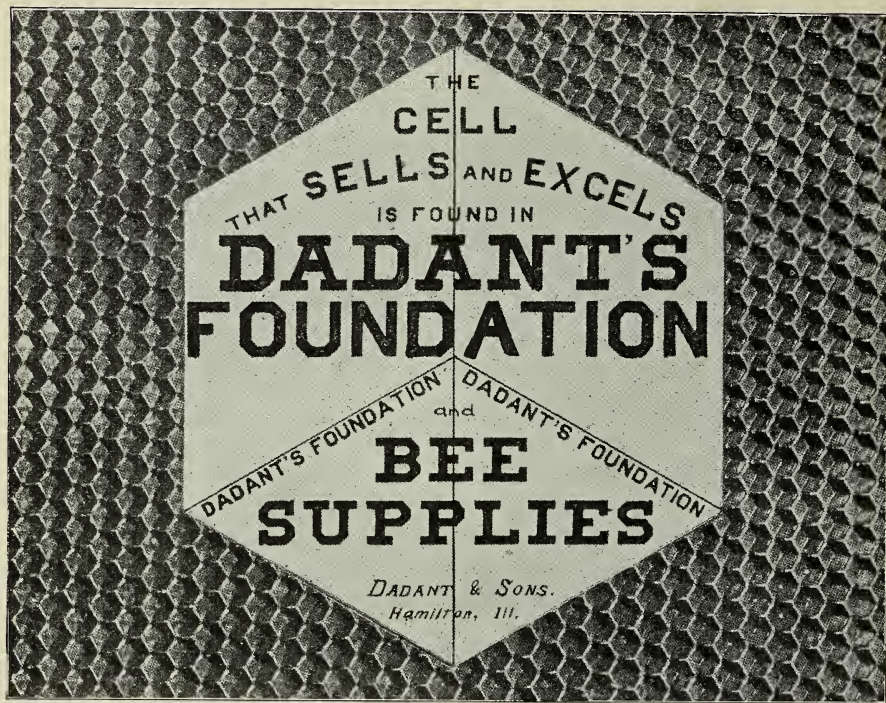
"A LITTLE LAND AND A LIVING."

The above is the title of a new book, just out, by the author of "Three Acres and Liberty." It is along the same line with what I have to say in our book on tomato culture, about supporting a family on a quarter of an acre. The book is specially valuable because it gathers up a great number of illustrations taken from the various agricultural periodicals in regard to what can be accomplished on a little piece of land—or perhaps I should say in regard to what *has been* accomplished. As the dates and references are all given, it is an easy matter to verify these statements, telling us what is possible to be done on a little piece of ground by one who is *really in love* with old Mother Earth. The only thing that troubles me about recommending books of this kind is the fact that many people forget that these good results are accomplished only by indefatigable labor, early and late. The price of the book is \$1.00, and can be had by addressing the Arcadia Press, 150 Nassau St., New York, or from this office.

THE ROMANCE OF THE REAPER.

On page 585 I said it was impossible for me to read or even look through very many of the books and papers which the kind friends are sending me day by day; and I have been thinking for some time that I should probably not read many more *books* clear through. But I had one of my happy surprises when I got hold of a little book of 184 pages, entitled "The Romance of the Reaper." The book was first issued serially in *Everybody's Magazine*, with which many of you are familiar. Its beautiful print, making it easy to read, and its magnificent illustrations, caused me to read it almost from beginning to end without any tired or "sluggish feeling" in the least. One reason why it took such a mighty hold on me was that, for the first time in my life, I fully comprehended how the evolution of the reaper has helped to feed the starving multitudes all over the face of the globe. It also appealed to me particularly because I can well remember seeing in my boyhood days the mower introduced, later the reaper, then the binder that used wire, and finally the *twine* binder. The history of these great inventors, who worked day and night unflinchingly for a term of years, reminded me most vividly of the evolution (in our own industry) of the honey-extractor and the present hives and appliances that we have for producing comb honey. The book does not give *any one man* the credit by any means; but we have most interesting sketches of a score of great inventors who helped to make the reaper what it is now, and also who helped to make the *farmers* of our land what they are now. The book is beautifully written by Herbert N. Casson, whom I should pronounce one of the most talented writers of the present day. There are passages in certain parts of the book that would do credit to a Fourth-of-July orator. The price is \$1.00, and I do not know how you can invest that amount to better advantage. Read it yourself, and then lend it all over the neighborhood. In some places it seems to defend the trust business; but if great trusts have been the means of feeding the hungry in the uttermost parts of the earth we can thank God for this one thing at least. If some of the millionaires who have more money than they know what to do with should all at once take a notion to use some of their means to feed the starving *women and children* in the different corners of the earth, I should certainly feel that the millennium is coming. So far as I can learn from the book, I believe our great inventors of reapers and mowers, most of them if not all, reaped a rich pecuniary reward.

The book is published by Doubleday, Page & Co., of New York, to whom letters of inquiry should be sent.



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JAMESTOWN, N. Y.

TO OUR PATRONS

For the convenience of our patrons we some time ago established a series of agencies in the principal business centers of this country, chiefly with a view to the much more expeditious shipment of goods. Every one knows, who has much to do with railroads, that they are provokingly slow just at the very time the buyer is waiting for the goods. This is particularly true of bee-keepers who do not know what their requirements will be until the season has almost arrived. Then they order the goods in a great hurry, expecting to get them in a few days, whereas the railroad people consume weeks in getting the goods to the destination. To overcome this we have covered the country with agencies. Some of these are our own, and some are not. It is immaterial to the consumer which is which, for they all sell (or nearly all) at our Medina prices. They can do this because the charges on a carload of bee-supplies are small compared with the individual charges on small lots. There are other advantages. Many can go to some nearby city and purchase the goods *after* having inspected them. Others drop in to have the uses of the various apiarian articles explained.

OUR NEW YORK BRANCH.

This branch was established chiefly to take care of our foreign trade, which had grown to large dimensions, and which we found impossible to cope with from Medina alone. We have made no effort to draw local trade to this office because we have branches at Syracuse and Philadelphia, but in spite of ourselves a trade has grown up tributary to the city of New York. Persons doing business in the metropolis, but living in the suburbs, found it very convenient to call at our office and order their supplies as needed. Others living at a considerable distance from the city, but who occasionally visit it on business, took the opportunity to call and see us, and in consequence gave us their business. The office is located in the *Evening Post* building, opposite St. Paul's Church, and just around the corner from the old Astor House. It is near the postoffice.

We have no stock of goods there, the warehouse being located in Hoboken for convenience to the shipping. The address is Evening Post Bldg., Vesey St., Telephone 543 Cortlandt.

OUR PHILADELPHIA BRANCH.

This is in charge of William A. Selser, a veteran in the bee business, and a prominent authority on the subject of honey. Having been so long in the business, all the time in the vicinity of the Quaker City, Mr. Selser is peculiarly able to give assistance and advice to beginners and others not so well informed perhaps. Usually we carry quite a stock of goods there, wherewith we supply Eastern Pennsylvania, New Jersey, Maryland, and Delaware, and even points much further away. Twice a week during the season the manager gives lessons to persons who wish to see how various appliances are used. For this purpose the spectators need not leave the building as we have an apiary on the roof. We also have other large apiaries near the city where are bred bees and queens. Here we have had "field days" when as many as 1000 bee-keepers assembled to see some of the leading experts do stunts with bees. This shows the strength of the bee-keep-

ing interests in and round Philadelphia. If you can make use of this branch we shall be glad to have you do so, as our facilities are full and complete in all departments. Mr. Selser has a big fund of information to draw on, and is at your service. The address is The A. I. Root Co., 10 Vine St., Philadelphia.

THE WASHINGTON BRANCH.

This branch was established to cope with the trade of Virginia, Western Maryland, and adjacent territory. Contrary to general opinion, the capital city of our nation is very favorably situated for business purposes. This is more particularly true of Virginia and Western Maryland, which can be served with great promptitude and despatch by the railways from Washington, also by way of the Potomac River steamers. Lately this branch has been greatly favored with orders, and we judge from this our friends have found out its value as a shipping-point. Our manager there is Mr. W. T. Kerrick, an experienced bee-keeper. This office is situated at 1100 Maryland Ave., S. W., and may be easily found by strangers on a visit.

OUR CHICAGO OFFICE.

As the greatest railroad center of the world, it was long manifest to us before we actually decided on it that we ought to have a branch establishment in Chicago from which we could ship orders that are needed in a great hurry. In a number of other ways there are great advantages in having a Chicago warehouse, chief of which is the opportunity of being able to ship on the very railroad near which the bee-keeper lives. This insures better service, quicker transport, and lower rates. Then, again, many of our customers who perchance may visit the city find it convenient to call on us, and in this way we become more conversant with their wants and desires. We need not enlarge on the advantages of this office, as they will be obvious to most of our readers who live in the region tributary to Chicago. Our manager there is R. W. Boyden, who is always on hand to attend to the wants of our friends, and who is very glad to see callers who are interested in bee-keeping. The office address is, The A. I. Root Co., 144 E. Erie St., Chicago, Ill.

THE A. I. ROOT CO. IN SYRACUSE.

Here we have in complete charge Mr. F. A. Salisbury, whose name was familiar to American bee-keepers 25 years ago, and has been ever since. He has many friends who enjoy sending him an order every year with clocklike regularity. Syracuse is right in the heart of a bee country, and last year when every one else was complaining of "hard times" Mr. Salisbury did quite his usual amount of business, possibly a little more. Much of this is due to his personal qualities as a business man with years of good reputation behind him. He is, in addition, situated in a fine business center so as to reach New England and New York. He also knows the importance of getting out orders in a hurry when the honey-flow is in sight. He has been there himself, and has a fellow-feeling for the belated customer who leaves off ordering to the last moment. The A. I. Root Co., Syracuse, N. Y., is sufficient.

The A. I. Root Co., Medina, O.

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